**How City Fiscal Health Affects its Innovation**

BY

KSENIYA KHOVANOVA
MPA, California State Polytechnic University, 2004
MBA, Kyiv International Academy of Banking, 1998
M.A. and B.A. Sumy State Pedagogical University, 1995

DISSERTATION
Submitted as partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Public Administration
in the Graduate College of the University of Illinois at Chicago, 2011

Chicago, Illinois

To the revived intelligence of Makedonsky family

vigilantly carried out through the turbulent times of a few political regimes by my dearly loved grandma Anastasia, energy infused by my cheerful mum Anna, not yet entirely comprehended by my very young brother Yuri, and continuously and entirely supported by my beloved husband Joel.

## ACKNOWLEDGEMENTS

I would like to cordially thank my dissertation advisor, Michael A. Pagano, and all the committee members, Karen Mossberger, Paula Worthington, Rebecca Hendrick, and Phillip Ashton for their assistance. This two-year research journey could appear even longer and more effort-consuming given my cross-Atlantic location. Yet, immediate availability and considerate reaction, thoughtful feedback, guidance and support of my dissertation committee members helped me to stay in the academic 'loop' of Chicago school and encouraged me to make an important step forward in my professional life.

I must also acknowledge my former colleagues at the Government Financial Officers Association (GFOA) in Chciago – Mike Musha, Mike Jacobson, Shelley Fulla, Amy Zachary Reynolds and Shayne Kavanagh – for their interest, encouragement, advice and information about the specifics of existing in U.S. local governments performance management tools and practice. I would like to express my particular gratitude to the Director of GFOA Research and Consulting Center Anne Kinney for being exceptionally supportive of my ideas and research and for providing me access to the GFOA performance management database. I will miss our conversations over morning coffees and will always remember the "Good Luck" cake party before my return to school and comprehensive exams in the fall 2008. Many thanks for these great moments!

I am also grateful to my family - my mum and my brother, - who, even from far away, have always been an infinite source of cheering energy and a quintessence of understanding for me, albeit the complexity of my professional life-paths. Thank you for believing in me!

I must also acknowledge my wonderful husband Joel. Your caring heart and generously offered supportive hand during the preparation of my numerous course assignments, projects, exams, and research work gave me the courage to successfully complete every and each of these steps while living a full joyful life experience with you. Our beautiful marriage in Chicago between the two of my comprehensive exams could happen only because of your unmatched appreciation for *la beauté de la vie ensemble!*

KMK

## TABLE OF CONTENTS

**TABLE OF CONTENTS (continued)**

## LIST OF TABLES

## LIST OF FIGURES

FIGURE PAGE

## SUMMARY

This study examined the impact of fiscal health of the U.S. city governments on their degree (or scope) of innovation using the model that encompasses exogeneity of city government environments and aiming to answer the questions of whether or not availability of financial resources represents a crucial factor for innovation implementation in local governments, and if fiscally healthy cities can be expected to innovate more than fiscally stressed ones. More precisely, this research explored how the variation in U.S. middle-sized cities' abilities to meet their financial and service obligations, availability of fiscal slack in these governments, their fiscal autonomy level, type of leadership and size affect the degree of performance measurement (PM) innovation implementation in these cities.

The following series of inter-related research questions were empirically addressed through a cross-section analysis of financial and performance measurement data of 140 cities in eight U.S. states. First, does financial resource availability represent a crucial factor for innovation implementation in U.S. city governments? Second, can fiscally stressed cities be expected to innovate more than fiscally healthy ones, i.e. does poor fiscal health lead to innovation? Third, does slack resource availability in a government have any effect on the scope of city implemented innovation? Forth, does the form of city government or its size define the scope of implemented innovation? Finally, what is the impact of intergovernmental institutional arrangements – e.g. fiscal and functional home rule – on the relationship between fiscal health and innovation?

While employing both qualitative and quantitative analytical methods, this study introduced a concept of fiscal health that focuses exclusively on such elements of city's fiscal structure as revenue wealth and its spending needs. A measure of the scope of innovation was

also developed in the course of this work to gauge the degree of city implemented PM system innovation.

The main finding of this research is that the degrees of PM innovation implementation tend to grow with higher values of city fiscal health. These findings are in agreement with the arguments provided by economic (Schumpeter, 1934), public administration (Mohr, 1969; Cyert and Mart, 1963; Simon,1958), policy diffusion (Clark, 1985; Gray, 1973), innovation (Rogers, 1995), and performance measurement literature (McGowan and Stevens, 1983; May and Meltsner, 1981) that maintains that financial resources (or wealth) are necessary to initiate, direct and implement innovation. The results of this research additionally support the statement that performance measurement implementation is a complex innovative policy, accomplishment of which does not solely entails considerable investment of budgetary resources to support institutional capacities, e.g. administrative structures, professional expertise and coordination, crucial for innovation implementation, but is also determined by institutional environment of the implementing jurisdiction. Indeed, only when combined with higher degree of fiscal autonomy (i.e. less restrictive or no general TELs) and political (i.e. statutory mayor-council) form of government good fiscal health of a city translates into higher degree of its innovation implementation.

These results improve our understanding of the transformational activities and management issues the public sector faces today while offering informed concussions to state and federal legislators in the developing of intergovernmental aid policies and innovation financing strategies. Knowing that cities' fiscal health plays a key role in their innovation implementation, the state and/or federal legislators should keep in mind the necessity of upfront investment of financial resources if they are to stimulate urban economic recovery by

means of longer-term strategic innovations. This insight about the role of city fiscal health in local innovative policy decision-making also provides some guidance to the U.S. local officials on how to deal with existing exigencies as - even though a number of innovation-focused economic recovery initiatives have been implemented, - our understanding of local government finance for urban innovative action in the midst of current economic crisis is far from perfect.

# I. INTRODUCTION

## A. Background

The U.S. local governments have experienced many ups and downs during past few decades demonstrating that public finances are not immune to economic cycles. Each "crisis" has its own distinctive characteristics and reveals different public policy responses. While it is too early to estimate the strategies local governments use to cope with financial distress today, analyzing to which extent the localities' fiscal conditions shaped local policy decisions in the past may help to choose better policy approach to cope with nowadays economic situation.

The attention of financial policy scholars and analysts to fiscal health of the U.S. localities renewed following fiscal pressures faced by American central cities in the late 1970s-early 1980s as a result of decline in federal government aid, deep economic recession, and citizen opposition to tax increase. Numerous efforts were made to evaluate local government fiscal health (ACIR 1962, Bunce and Goldberg, 1979; Clark and Ferguson, 1983; Bahl, 1984; Burchell et al. 1981; Aaronson, 1984; Berne and Schramm 1986; Ladd and Yinger, 1989; Groves, Godsey and Nollenberger, 2003; Hendrick, 2004), and to identify new forms of local government activity – many of which could be referred as innovations – that assisted the decision-makers in maintaining fiscal health of their communities under condition of fiscal strain (Levine 1980; Walman, and Davis 1980; Murray and Jick 1981; Bryson and Boal, 1983; Bryson and Roering, 1988 in Pammer, 1990; Clark, 1999). If new forms of local government activity are innovations,[1] one may conclude that fiscal difficulties faced by the U.S. localities stimulated their governments to innovate.

[1] According to Rogers and Kim's (1985) definition, innovation is an idea, practice or object perceived as new or different to the adopting unit regardless whether or not this idea is objectively new since its first use or discovery.

From the perspective of the innovation literature though, innovation is an expensive process that requires upfront and continuous investment. According to Schumpeter (1996), Rogers (2003), and O'Sullivan (2005), significant resources are necessary to initiate, direct and implement innovation. Since innovation implementation takes time, resource commitment has to be constant until the implementation process is complete.

Public finance scholars, however, have succeeded neither in adequately integrating their fiscal health evaluation efforts with the expanding body of research on innovation, nor in answering the question whether or not fiscally stressed cities could be expected to innovate more than fiscally healthy ones. A few available studies present sharply divided perspectives on the matter (Rogers 1995; Levine, Rubin and Wolohojlan, 1981; Bozeman and Slusher, 1979; Zaltman 1973; March and Simon, 1958). One side emphasizes the importance of environmental change and performance gaps - in the form of local tax base decline, reduction in intergovernmental assistance, external imposition of tax or expenditure limitations, increases in demand for public services, or predicted budget deficit, and gaps between projected expenditures and available revenues, - as stimuli which increase innovative behavior (Zaltman, 1973; March and Simon, 1958). Zaltman (1973), for instance, argues that changes in the environment create a situation of stress or pressure to which the adoption unit must respond if it is to remain in a dynamic equilibrium with the environment. According to this perspective, local governments experiencing financial pressures are more likely to innovate then the governments with steady fiscal conditions.

The other side suggests that availability of financial resources is crucial for innovation. According to Levine et al. (1981) and Bozeman and Slusher (1979), public organizations faced with resource scarcity will engage in maladaptive rather than innovative behavior, becoming more rigid and conservative in their actions. "The essential message is that

environmental stress [...] could be expected to breed structural rigidity, formalization, habitual response and increasing interorganizational conflict" (Bozeman and Slusher, 1979: 346). These characteristics are, except perhaps for the last one, generally found to be inversely related to the adoption of innovative behavior. Levine et al. (1981) argue that loss of spare resources reduces the potential for fiscally stressed local governments to innovate.

Given these two sets of arguments the intricate question raises whether or not availability of financial resources represents a crucial factor for innovation implementation in local governments. Which of these two patterns hold for today's city governments? Can fiscally stressed cities be expected to be more innovative than fiscally healthy ones?

Even though cities are often viewed as leaders in government innovation (Osborne and Gaebler, 1992) and represent a particularly interesting case for the study of innovation due to high diversity of their local institutional, structural, demographic and economic contexts,[2] none of the existing academic inquiries investigated in depth the nature of this relationship for city governments with the exception of the University of Chicago Fiscal Austerity and Urban Innovation (FAUI) project coordinated by Terry N. Clark that produced a series of works on urban innovation. One of the important findings of this project is that very often city governments respond to the experienced financial instabilities by innovative measures of performance and/or productivity improvement[3]. At the same time, FAUI offers no conclusive evidence on whether or not these measures are stimulated by poor fiscal health of a city government or by initial investment of its financial resources.

Government performance and/or productivity improvement is generally evaluated by means of performance measurement - i.e. purposefully designed system of performance

---

[2] Which include e.g. differences in tax bases and structures, institutional arrangements, size and type of city governments, etc.

[3] New or different for this particular city practices regardless of whether or not they have been implemented elsewhere since its discovery (Rogers and Kim, 1985).

indicators used to systematically estimate how much and how well government delivers its services. The historical path of performance measurement is traced from the early 20th century to the renewed interest to performance and accountability during the 1990s. In more modern times concern for measuring performance of public entities arose with growing interest to more effective program budgeting in the 1960s and program evaluation in the 1970s (Poister and Streib, 1999). Since 1993, when important study by Osborne and Gaebler (1992) *Reinventing Government,* and the associated *National Performance Review* (1993) and *Government Performance and Results Act* were publicized, performance measurement has been gaining popularity as a new essential element of the results-oriented public management that assures more 'effective function' of '*effective* government' (Osborne and Gaebler, 1993 p. xviii). Regardless its reputation, this new tool has been irregularly adopted by different city governments in the U.S. (Poister and Streib, 1999; *Government Finance Review*, 2006).[4] Many explain this phenomenon by institutional, structural, managerial, decision-making and other characteristics. Yet, none of the studies has deliberately explained the link between city government fiscal health and its PM system implementation as innovative practice.

Lack of progress in our understanding of the connection between finance and innovation was also accentuated by O'Sullivan (2005) a few years ago. She emphasized the necessity to conduct empirical inquiry that would identify variation and change in the patterns of innovation financing by firms, industries and nations, and would help us to better understand the trends in financial resources supply by different financial institutions. O'Sullivan called for further investigation of the effects the patterns of financial demand and supply have on the novel activities of innovation incumbents and entrants. The above presented arguments validate the existing need for a study of the relationship between U.S.

---

[4] ***Government Finance Review*** articles, GFOA, 2006. Can be retrieved from the www.gfoa.org http://www.gfoa.org/downloads/MovingtoPerformanceBasedManagement.pdf

city fiscal health and its innovation. The latter can be rightfully represented by PM system implementation in city governments, given actuality, novelty and relativity of the phenomenon. In addition, more insight about the role of city fiscal health in local policy decision-making and implementation will provide better guidance for the U.S local officials on how to deal with existing exigencies, as our understanding of local government finance in the midst of current economic crisis is far from perfect.

## B. Purpose of the Study

This study examines the effects of the U.S. city governments' fiscal health on degree of their implemented innovation aiming to answer the questions of whether or not availability of financial resources represents a crucial factor for innovation implementation in local governments, and if fiscally stressed cities can be expected to innovate more than fiscally healthy ones. More precisely, the research analyzes how the variation in these cities' abilities to meet their financial and service obligations affects the degree of their performance measurement (PM) system implementation. Regardless the recognized discrepancy of existing views in the public finance and the innovation literature on the relationship between fiscal health of a government and its innovativeness – where one camp emphasizes the importance of environmental change and performance gaps as a stimuli for local government innovation rather than fiscal standing of a government (Zaltman, 1973; March and Simon, 1958), and the other insists on the argument that availability of financial resources is crucial for innovation (Levine et al., 1981; Bozeman and Slusher, 1979), - a 'first touch' analysis of the collected for the purpose of this research data shows significant positive correlation between fiscal health of the analyzed cities and the scope of their implemented innovation. Please see Appendix A for a scatter plot and correlation summary of the two variables.

This inquiry is particularly important during the current period of economic and financial distress, when more comprehensive understanding of the role of local governments' fiscal health (i.e. availability of financial resources) in their policy choices is necessary. The unique contribution of this study is that, while measuring and testing the importance of the relationship between city government fiscal health and innovation, it accounts for the diversity of local government institutional, regulatory, economic, and leadership features in explaining this relationship. These characteristics include but are not limited to local tax bases and structures, level of local fiscal authority, home rule status, existing TELs, type and size of government. In this way, the author seeks not only to contribute to public finance and innovation literature by explaining the multidimensionality of the relationship between government fiscal health and its degree of innovation; but also to add to our understanding of the role of intergovernmental institutional arrangements and individual governments' structural differences in the process of innovative policy making.

## C. Significance of the Study

The research findings will contribute to a better understanding of the transformational activities and management issues the public sector faces today in the following ways. From a practical point of view, this study will assist state and federal legislators in developing intergovernmental aid policies. Since the role of local governments' fiscal health on their incentives to pursue innovative policy implementation will be determined, the state legislators will have a better understanding of the strategies they may resort to during times of local fiscal crises - to intervene with state aid or to refrain from intervention. Regarding its contribution to scholarly literature, the results of this study will enhance our understanding of how variation in local financial conditions affects government incentives to implement new

strategies, or to initiate innovative behavior. Finally, while providing answers to some of the currently existing empirical questions, this work will help to raise new questions for future empirical research.

## D. Organization of the Study

The following Chapter provides an extensive review of the literature on fiscal health evaluation and innovation implementation in the U.S. city governments. The appropriateness of the existing systems of fiscal health evaluation for the study of the relationship between city government fiscal health and innovation is reviewed. In particular, Chapter 2 discusses the limitations of the existing four approaches to U.S. cities' fiscal health evaluation systems in reflecting the uniqueness of the U.S. cities' economic base and institutional structure. Related arguments from public administration, finance, economic, innovation and policy diffusion literature are presented forming theoretical framework for the study. An expanded approach for city fiscal health measurement that reflects the uniqueness of individual city fiscal structure and expenditure needs is proposed.

Chapter 3 describes the research methodology, introduces the model of the study, proposed measures, and the statistical tests and procedures employed for data analysis. Combining the research and analytic strengths of today's academic and policy perspectives with the contextual understanding of cities' fiscal environments (i.e. constraints and opportunities offered by the context of their institutional and economic structures) this chapter develops an index of fiscal health that accounts for uniqueness of environmental factors of city governments, i.e. dissimilarity of their revenue structures and spending needs. It also offers a measure of the scope of innovation in a city government. Chapter 3 also contains detailed data description and communicates the sample selection techniques.

Chapter 4 presents the summaries and conclusions derived from the data analysis and discusses the relationships identified in the course of the study of the link between the U.S. city governments' fiscal health on their degree of innovation implementation. Recommendations for the future research and the implications for public officials and government policy makers are presented.

## II. CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

### A. Conceptual Framework

Following fiscal crises, such as New York City's in 1976, major efforts were made to 1) identify new forms of local government activity that could alleviate fiscal austerities (Clark, 1999), and 2) develop approaches for measuring local government fiscal health. The University of Chicago's FAUI Project (1982)[5] documented about 30 new forms of activity adopted by city governments of the world aiming to improve their fiscal standing. Among others, such strategies as raising taxes, establishing user fees and charges, contracting out (Miranda, 1994), and computerization were observed, which supports earlier findings by Lewis and Logalbo (1980), and Greiner and Hatry (1983). FAUI reported that U.S. municipal governments scored highest on contracting out and user fees and charges implementation (Clark, 1999). A number of approaches for measuring local government fiscal health were developed in aftermath of the crisis of 1970s (Cuciti, 1978; Bunce and Goldberg, 1979; Hawell and Stamm, 1979; Clark and Ferguson, 1983; Bahl, 1984; Burchell et al. 1981; Aaronson, 1984; Berne and Schramm 1986; Ladd and Yinger, 1989), some of them were designed 20-30 years later (Tannenwald, 1999; Groves et al., 2003; Hendrick, 2004) Since none of these measures is universally applicable to the variety of local governments' contexts, the process of methodology development for local government fiscal health assessment continues until today.

Essentially, while public finance scholars and analysts are still in search for more accurate and appropriate measures of fiscal health, city governments had to act quickly adopting a variety of new productivity improvement strategies to ameliorate economic situation in their communities. Given high diversity of governments' socioeconomic, financial

[5] http://faui.uchicago.edu/about.html retrieved on April 12, 2008.

and political environments, the number and scope of these new forms of activity varied from city to city. The literature review below describes how these processes were unfolding in local context.

## 1. Fiscal crisis alleviation literature

In the 1970s, economic growth slowed down all over the world. Paris demonstrations in 1968, Arab oil embargo in 1973, and unrestrained inflation marked the end of a period of economic development experienced since 1945. New political leaders redirected their strategies from how to spend to how to cut spending, or use "cutback management." Many local governments sought to spur economic development by economic incentives. The latter lost their impact very soon since competing localities offered similar stimuli. Similarly, citizens pressed for less spending. Government fiscal austerity became real.

It was at that time, under condition of revenue decline, when the need arose for a series of managerial strategies, so that jurisdictions could adapt to changes in their socio-economic base. New managerial strategies were assumed to be functional plans designed to 'reset' the economy, to alleviate fiscal problems locally in order to assure short-term adaptability and long-term survival (Glueck, 1972; Hambrick, 1981; McGowan and Stevens, 1983). Much of the innovative forms of local government activities are described by public administration literature (Clark and Ferguson, 1983; Miranda, 1994; Clark, 1999).

Acquisition of additional revenue, reduction of demands for services, productivity improvements, increased reliance on private sector, on individual citizens, cost cutting, and reduced level of service were named among basic fairly consistent strategies-responses of local authorities to financial instability in their governed jurisdictions (Lewis and Logalbo. 1980; Greiner and Hatry, 1983; Pammer, 1990). The University of Chicago Fiscal Austerity

and Urban Innovation (FAUI) Project (1982), for instance, documented about 30 strategies adopted by city governments in the world.

Public finance literature, in its turn, presents evidence that in designing strategies for local economy advancement many governments gave priority to performance and/or productivity improvement. A number of related publications on the subject by Holzer (1980), Poister and Streib (1999), General Accounting Office (1978), and the International City Management Association (ICMA, 1990) demonstrate this fact. Poister and Streib (1999) were among the first to voice the necessity of examining performance improvement in municipal context regarding cities as "stellar" users of leading management methods. They pointed out that municipal government culture is shifting toward a greater emphasis on "performance, managerial direction and control, informed decision making, and professionalism" (Poister and Streib, 1999: 325). While analyzing how and to which extent performance measurement was used in contemporary municipal governments, Poister and Streib neither deliberately examined the causes of this performance-oriented shift, nor considered the link between governments' fiscal health and scope of their performance measurement implementation. This reinforces the necessity to examine the relationship between the degree of performance management innovation implementation and fiscal health of U.S. city governments in order to improve our understanding of the effect of city fiscal health on urban innovation and to learn more about the determinants of city government innovation.

### 2. City fiscal condition measurement literature

Along fiscal recovery efforts undertaken by government practitioners, public finance scholars and analysts strived to develop a set of measures that could assist localities in estimating their fiscal health in order to help the governments to manage their assets and

liabilities in a way that reduces risk of fiscal crises in the future. Related studies interchangeably use a variety of terms, such as "fiscal health," "fiscal stress," "fiscal strain," "fiscal comfort" and/or "fiscal disparity." In their evaluations of both 'external' and 'internal' key features of local fiscal structure (e.g. tax bases and rates, revenues collected, debt levels and surplus resources), some of the researchers focus on revenue - expenditure side, others give considerable weight to socioeconomic, political and institutional characteristics of a government, e.g. differentiate by cities' demographics, tax base, type of government, etc.

In terms of fiscal health evaluation of U.S. cities, four main approaches stand out. The first one is represented by Peggy Cuciti's *Urban Need Index* (Congressional Budget Office, 1978)[6] developed in the context of *City Need and the Responsiveness of Federal Grants Programs* study. The measure combines three dimensions of urban need – social, economic and fiscal – in order to estimate community development needs in major U.S. cities in the late 1980s. Urban need is understood by this study in terms of lack of public expenditure for adequate public service provision. In other words, urban need is a contrary to fiscal health generally defined as the ability of a government to meet its financial and service obligations: higher values of Urban Need Index indicate poorer fiscal condition of the rated cities. The second approach was developed by Howell and Stamm (1979). Arguing that prior research has been too narrowly conceived (focusing on actors relating to the demand of municipal services over factors contributing to the capacity of cities to provide such services), the authors set out to "provide new empirical insights into the performance of cities with widely differing economic, social, and structural conditions" (p. 3). To describe and measure fiscal strain in financial terms, Howell and Stamm compiled a comprehensive database containing

---

[6] Cuciti, Peggy L. 1978. *City need and the responsiveness of federal grants programs Subcommittee on the City of the Committee on Banking, Finance and Urban Affairs, House of Representatives, 95th Congress, second session.* Washington: U.S. G.P.O.

financial "performance" variables that identified patterns and linkages among social, economic, structural, and financial conditions of the cities. They defined fiscal stress as worsening relationship between municipal spending and resources, represented in terms of high taxation, debt, and expenditure ratios. Within a group of sixty-six jurisdictions, Howell and Stamm mapped 16 categories (clusters) of city fiscal conditions based on similarities in their social, economic, and structural features.

The third measure was offered by Terry Clark and Lorna Ferguson in 1983 that focused on fiscal health of a municipality as a concept that describes the extent to which a government has achieved a state of balance of its fiscal structure with its environment aiming to reduce the incidence of short-run budgetary and fiscal deficits. Their methodology employs city wealth (CWI) and functional performance (FPI) indices to measure fiscal health of American cities.

The forth approach was developed by Ladd and Yinger in 1989 that became the standard reference on both the analytics of local fiscal policy and the fiscal health of U.S. cities. Having recognized that the U.S. cities did not have a uniform resource base - i.e. tax base and institutional structure, and that states neither provide identical forms of financial aid nor they require the same level of service provision,[7] Ladd and Yinger designed a revenue-raising capacity measure aimed "to measure how much revenue the city could raise with a standard tax burden on city residents from three uniformly defined broad-based taxes: a property tax, a general sales, and an earnings tax" (p. 46).

This section presents detailed review of the approaches to city fiscal health measurement delineating theoretical bases for the current research.

[7] Given that demand for services also varies across municipalities.

### a. Urban Need Index

In aftermath of the crisis of 1970s the understanding of fiscal health of local government was often linked or even defined by "objective needs" of a community, according to which public funds allocations were made. Consequently, social scientists and policy makers suggested ways of measuring and ranking fiscal standing of local communities based on their needs indicators. Urban Need Index (Congressional Budget Office,1978) represented one of such measures designed to assist in fiscal strain alleviation and further economic development of viable urban communities by providing necessary (estimated as a result of index application) level of public service (descent housing, suitable living conditions) and offering new economic opportunities. The Index was created as a result of factor analysis of 20 direct indicators of community development need classified into three following dimensions:

- *Age & Decline*: population change 1960-1975 (negative), pre-1939 housing, change in retail sales establishments 1963-1972 (negative), change in retail sales 1963-1972 (negative), change in employment 1967-1972 (negative), population over 65, new housing permits 1975-1976 (negative), female headed families;
- *Density*: violent crime, population density, renter households, change in percent African American 1960-1970, nonwhite population, unemployment, female headed families;
- *Poverty*: poor persons under 18, poor persons, nonwhite population, overcrowded housing, houses without plumbing, female headed families, persons without high-school education.

For each of these three dimensions factor analysis provided an index score for every city under analysis indicating its position relative to others. Three dimensions of need were

then combined into a single measure of Urban Need Index with the following weights assigned to each dimension based on their significance:

$$NEED = 0.4\,(Poverty) + 0.35\,(Age\ \&\ Decline) + 0.25\,(Density) \qquad (1)$$

While the proposed index provided an informed basis for evaluating expenditure needs of cities, it has some serious limitations:

1) the use of the three determining dimensions of urban need (density, poverty, age and decline) is judgmental - no theoretical basis or empirical evidence is provided by the study to justify this choice;
2) the same methodological question can be raised with regard to need determinants weighting: the assumptions made by the author about weighting do not allow for accepting this measure as a universal comparative tool for city governments, as factor dimensions can be different for different groups of cities;
3) community development need measure does not contain any financial data or indicators that could communicate community need in financial terms, or for instance, indicate an approximate amount of public resources required to satisfy estimated community needs;
4) finally, the measure double counts some variables or constructs, and thus even though most of the indicators are easily available for local governments, the index appears to be complex and confusing for practical application.

### b. Urban Fiscal Stress

Almost concurrently with P. Cucity (*Congressional Budget Office,* 1978), Howell and Stamm (1979) worked to examine "a subject of almost bewildering complexity" - municipal finances. Collaborating with officials of 66 U.S. cities across the country, ranging in population from 50,000 to 1,000,000, the authors "collected detailed financial budgets, operating statements, and balance sheets, and developed "a standardized accounting format that allows for a comparison of fiscal conditions of the cities."[8]

Previous research usually measured fiscal stress by socioeconomic factors, such as declining population and rising unemployment. Howell and Stamm's important contribution was that the scholars compiled a comprehensive database of 100 "performance" variables which identified patterns and linkages among the social, economic, structural, and financial features of the cities in order to describe and measure stress in financial terms. The authors defined fiscal stress as worsening relationship between municipal spending and resources, represented in terms of high taxation, debt, and expenditure ratios. According to Howell and Stamm, the degree of fiscal stress among American cities imposed by rapid expansion of these activities was indicated by several highly publicized financial crises, such as in New York City and Cincinnati.

The objective of Howell and Stamm's work was twofold - to take a first cut at the problem of designing a comprehensive municipal financial data system, and to investigate the possibility of delineating definitions, measures, and determinants of fiscal stress among medium-sized cities. In the authors' words, "this study was launched to provide new empirical insights into the financial performance of cities with widely differing economic, social, and structural conditions." Howell and Stamm designed what they called indicators of city

[8] This study was conducted jointly by the Economics Department of The First National Bank of Boston and Touche Ross & Co., one of the "Big Eight" accounting firms.

financial performance. Thirteen financial data items were used as indicators, covering the current level and stability of the operating surplus or deficit; the current liquidity of known financial resources; the ability to generate additional revenues from the city's own sources or intergovernmental transfers; the ability to assume additional debt; and long-term capital needs. Then, sixteen types of cities were defined according to their economic (high, above average, average, below average investment and income), social (high and low proportion of dependent population), and structural (high and low population density) characteristics. Economic variables included the resource base of the city in terms of manufacturing investment, private construction, income level and distribution, occupational structure of the labor market, and population size and age. Social variables covered the consequences of economic growth in terms of employment level, poverty, housing stock, and minorities.

This study reached a few important conclusions. First of all, older, industrially aged cities are most likely to be fiscally distressed (or to be in poor fiscal health). The reason for this is a decline in economic activity due to maturity, with new growth shifting to younger cities. According to Howell and Stamm, "economic forces have the most notable impact on a city's fiscal condition and that older industrialized cities are most likely to be stressed because of a decline in their economic activity. This means that municipal financial well-being depends on maintaining private investment and jobs." In such cities, tax rates, current operating expenditures, and municipal employment rise rapidly. Second finding states that previous conclusion is far from being universal. Some such cities are not actually stressed, whereas some younger, more rapidly growing cities, particularly in the South, are in very poor fiscal condition. A more complex set of determinants is thus indicated. Industrial aging is concentrated in the Northeast, but some Southern cities also have high debt ratios. Next, fiscal

stress is not inevitable and can be avoided or corrected. Last, socio-economic conditions alone are not sufficient to detect fiscal stress, specifically financial indicators are important.

As a conceptual framework for sorting through large amounts of municipal budgetary information, this study represents a useful reference. At the same time, it has some methodological and interpretational limitations:

1) the sample of the study is questionable: choosing sample of cities based on availability and quality of data on a large set of financial indicators represents a selection bias that affects validity and viability of the findings and proposed conclusions;[9]
2) the number of jurisdictions selected for analysis is comparatively small (66), while it includes a range of cities with population from 50,000 to 1,000,000; given that city size affects its economic and tax base, its institutional characteristics, as well as level of public service provision (Clarck and Ferguson, 1983; Ladd and Yinger, 1989; Chernick, 1990), it is hardly possible to draw any general conclusions about the determinants of fiscal condition of American cities based on Howell and Stamm's analysis; thus, more detailed empirical inquiry with larger and more representative sample and more thorough focus on the specifics of cities' socioeconomic, demographic and institutional characteristics is needed to better estimate and understand fiscal condition of American urban communities;
3) even though Howell and Stamm recognize that the appropriate fiscal structure for a government is contingent upon its environment, most economic variables are not presented; regardless the fact that financial performance data are extremely

[9] For instance, improper procedures of sample selection may result in twisted analysis and/or distortion of measures of association (e.g. rate ratio).

important for fiscal condition analysis of a city, such analysis cannot be disentangled from its economic and social environment;

4) next limitation relates to clustering: the use of population density as the only control variable for structural differences among cities in functional responsibilities and financial arrangements is inadequate; variation in the mix and quantity of state-local tasks and differences across cities in their service responsibilities remains open to question; similarly, reliance on per capita measures distorts suburban conditions: comparisons of local taxes per capita provide no clear indication of fiscal condition.

The authors acknowledge the last limitation when they note that per capita taxes are "not necessarily an indicator of strain even if [they are] large, since no measure of ability to pay has been included"(p. 40). Nevertheless, they proceed with analysis of fiscal stress that revolves around this measure. Per capita debt is also presumed to vary directly with fiscal pressure, regardless of differences in functional responsibility and managerial capability. These limitations in design create some ambiguity in analysis interpretation. Without adequate control for structural differences among cities, there is no basis for judging a city with above average per capita operating outlays as under comparatively greater fiscal stress.

### c. City Wealth and Functional Performance Indices

Clark and Ferguson (1983) developed a method that employs city wealth (CWI) and functional performance (FPI) indices to evaluate fiscal health of American cities. The authors viewed fiscal health of a municipality as the extent to which its government has adapted its fiscal structure to the pressures of the environment aiming to reduce the incidence of short-run budgetary and fiscal deficits. For example, CWI combines measures of different components

of the revenue base with measures of dependence on revenues from each base component and is calculated according to the following formula:

$$CWI = WtP + WiI \qquad (2)$$

where Wt = proportion of own-source revenues from property taxes; P = total equalized assessed value of property; Wi = (1-Wt ); I = median family income.

While the CWI focuses on property taxes and other sources of own-source revenue in relation to the government's reliance on these two types of revenue, the FPI measures the total expenditures for each municipality that are considered to be "normal" (median or mean) for its reference group (that may be represented by all governments in a region.) The formula for FPI is:

$$FPI = \text{sum of } Fi * Wc \text{ across all core functions} \qquad (3)$$

where Wc = average per capita expenditures for municipalities performing the core functions Fi = 1 if municipality performs the function; Fi = 0 if municipality does not perform the function

The calculated ratios focus on comparing municipalities' actual expenditures to the FPI, or on examining change in FPI relative to population, income change, and city wealth. Although the CWI and FPI define fiscal health as the extent to which a government has achieved a state of balance with its fiscal environment, the indices have some drawbacks:

1) neither CWI nor FPI accounts for the exportability of revenue burden;
2) the CWI in particular, does not include significant levels of own-source revenues from sales taxes (that are usually exported to non-residents as consumers), thus it does not provide a comprehensive picture of fiscal health that would account for difference in access to revenue bases available to different governments;

3) the FPI represents one of the measures that compares individual government to a "group norm," and thus makes comparing fiscal situation of different communities across time hardly possible as the tax base structures of the U.S. localities vary significantly; and
4) as a per capita measure, the CWI distorts the measured phenomenon in commercial or industrial jurisdictions (for instance, per capita values of any variables may be extremely high for jurisdictions characterized by a high concentration of industrial and commercial properties for the reason that few people live there; thus, establishing fiscal measures based on population dramatically distorts conclusions about fiscal standing of jurisdictions).

### d. Fiscal Capacity

Simple measures such as per capita income or property wealth are deficient on two counts: first, they misstate fiscal capacity in that they do not take into account the city's ability to raise sales taxes, or export tax base to nonresidents; second, they ignore variations in fiscal need that stem from variations in the cost of providing services and in responsibility for service delivery. Measurement of service cost variation is fraught with conceptual and empirical problems. For example, the simplest measure of cost - what a city currently spends on particular services - does not distinguish differences in tastes and the efficiency of service delivery from differences in underlying service costs.

In their comprehensive study of fiscal trends in the 86 largest U.S. cities from 1972 through 1982 Ladd and Yinger (1989) directly confront these problems. Having recognized that the U.S. cities did not have a uniform resource base - i.e. tax base and institutional structure, and that states neither provide identical forms of financial aid nor they require the

same level of service provision,[10] Ladd and Yinger developed a comprehensive index of fiscal health that incorporates a city's ability to export taxes, the fiscal claims of other jurisdictions on the underlying tax base of cities, differences in service responsibilities, and differences in the cost of delivering some "average" level of service quality. Any analysis of state and local fiscal issues in the United States must deal with a wide variety of fiscal institutions in different states and cities. Ladd and Yinger abstract from this variation to determine the links between changes in the economic health of cities and changes in fiscal health. They create hypothetical measures of fiscal health based on a standardized set of fiscal institutions. Aiming "to measure how much revenue the city could raise with a standard tax burden on city residents from three uniformly defined broad-based taxes: a property tax, a general sales, and an earnings tax" (p. 46), Ladd and Yinger developed indices of actual and standardized fiscal health. For instance, their index of standardized fiscal health (SFHj) in city j can be calculated according the following formula:

$$SFHj = 1\text{-}q\ (SNIj/RRCj) \qquad (4)$$

*Where q is indicator of service quality, the same for all cities; SNIj = index of standardized expenditure need in city j; RRCj = city's revenue raising capacity*

They then introduce successively real-world variation in taxing authority, service responsibility, and state financial assistance, to arrive at a measure of actual fiscal health. Their measure of fiscal capacity is based on the income of city residents and the ability to export tax burdens. It assumes that all cities have access to three broad-based taxes-a property tax, a sales tax, and an earnings tax. Their calculations show a substantial variation in fiscal capacity. In taking the same proportional bite out of resident income, the richest city could have raised more than three times as much revenue per person as the poorest city in 1982.

[10] Given that demand for services also varies across municipalities.

Ladd and Yinger's important contribution to measuring revenue-generating capacity of cities is the inclusion of an estimate of the city's tax-exporting capacity, depending on the type of the tax structure.[11] Although their measure yields intuitively plausible rankings, the explicit introduction of tax exporting raises a number of questions. For example, the conceptually correct measure of fiscal capacity, as derived by the authors themselves, would reflect differences in the elasticity of each tax base across cities. Due to the lack of empirical knowledge of tax base elasticities the authors assume that these elasticities are the same across all cities. Elasticity of the earnings tax base is a particular problem. It seems unlikely that the introduction of an earnings tax in the central city alone would expand a city's revenue raising capacity by as much as predicted by the study, given the shift in the location of jobs within the metropolitan area that might result. Even if the policy experiment is to introduce an earnings tax throughout the metropolitan area, it is hard to infer the fiscal effect from the existing distribution of jobs in central cities and suburbs, given that so few cities actually have earnings taxes. Small cities, which tend to have higher proportions of their jobs filled by nonresidents, are assigned a higher potential fiscal capacity by Ladd and Yinger than large cities with a lower proportion of jobs filled by nonresidents. However, one would expect the tax base in large cities to be more inelastic than in smaller cities because of the unique characteristics of the larger cities. As a result, the Ladd and Yinger approach would underestimate the fiscal capacity of large cities.

[11] Commuter taxes, for example, generate revenue from non-residents who work in the city and consume city services, thereby exporting tax burden to these individuals. Even property taxes have a minor amount of tax-exporting capability because owners of property do not always live within the municipality, thereby exporting a portion of the tax burden to these absentee property owners. And sales taxes are collected at the point of sale, regardless of the residency of the consumer.

A few other limitations of the study include the following:

1) while the measures of 'actual' and 'standardized' fiscal health were created to identify differences in cities' recourse base and structure, the calculations of these measures referred to the 'average city' undermining the contextual uniqueness of the communities under analysis;

2) fiscal health measure does not account for the fact that access to city general revenues is controlled by the state. In the absence of state authorization to impose, for example, a commuter tax, the latter cannot be used by city policy officials to improve their community's fiscal health; and consequently

3) Ladd and Yinger's policy prescriptions were essentially to take actions that are out of the city's control: for instance, to expand state aid or allow city access to a commuter tax, which are not under the authority of most cities constitutional and legal control.

### e. Composite Index of Fiscal Health

This section offered a review of the strengths and weaknesses of the four most referenced studies on fiscal health evaluation of U.S. cities. In addition to the discussed reference studies on U.S. cities fiscal health, a study of 264 suburban municipalities in the Chicago metropolitan region by Rebecca Hendrick (2004) provides an advanced, better adjusted to local government contexts approach of fiscal health measurement that allows capturing in a more precise and adequate manner the multidimensionality of local financial and environmental characteristics. The study develops a multi-dimensional index of fiscal health that accounts for socioeconomic, fiscal and institutional structure of the cities, as well as for their fiscal and environmental balance. The author refers to fiscal health as "the ability

of government to meet its financial and service obligations." Her definition contains "different dimensions of factors affecting fiscal health to varying levels [...], and recognizes that changes to fiscal health within these dimensions occur in different time frames (Hendrick, 2004:80). Using systems approach to local government financial condition, Hendrick affirms that fiscal health is a complex concept, dimensions of which are related but often in indirect or nonlinear ways, and thus the scholar measures them separately. The analyzed dimensions of factors that affect fiscal health to variable degrees include: environmental indicators, balance of fiscal structure with environment, and fiscal structure of a government.

The measures of environmental features are presented by own-source revenue wealth reflecting a government's capacity to generate revenue, and by spending needs. Separate indicators are calculated for each of the sub-dimensions and then combined into a single indicator of environmental health. Revenue wealth is assessed using income per capita, EAV per square mile, and weighted retail sales per capita variables. The four sources of own-source revenue for municipalities are presented by property tax, sales tax, nontax revenue, and other tax sources (e.g., utility). Property tax capacity is measured as EAV per square mile, and sales receipts per capita measures the wealth of the sales tax revenue base. Given that much of nontax revenue may be exported to nonresidents its tax base estimation is difficult to identify. For this reason, income per capita is used as the measure of revenue capacity for this type of revenue (Berne and Schramm 1986; Rafuse and Marks1991). The measures of environmental factors that include own-source revenue wealth of a government and its spending needs are calculated separately and then combined into a single wealth index.

The spending needs measure is constructed from four variables: median age of housing, weighted crime rate per capita (percentage residential), population density (population/square miles), and whether a municipality is in a fire districts (the last two

indicators measuring the economies of scale for service delivery). Similar to the wealth index, the spending need index is created by weighting and summing component variables.

A government's fiscal balance with its environment is presented as the extent to which the government has captured the revenue resources in its environment and whether it provides adequate level of services. This dimension is measured by two ratios: own-source revenues relative to wealth (i.e. revenue effort or revenue burden) and expenditures relative to needs (to measure if the government provides appropriate level of services). Both own-source revenues and expenditures are calculated as per capita and weighted by percentage residential EAV.

According to Hendrick (2004), one area of fiscal structure that affects budgetary solvency and reflects a government's ability to manage risks, uncertainty, and environmental changes over a few years is slack. The scholar presents slack as a composite of fiscal health index of a government that contains four variables (to measure fiscal slack): percentage unreserved fund balance, percentage capital expenditures, percentage enterprise income, and percentage debt service.

While R. Hendrick's approach represents a more complex multidimensional approach to local government fiscal condition assessment that captures financial and environmental characteristics of suburban environments accounting for long- and short-time periods, this study has a few limitations:

1) high degree of complexity of the measures and their calculation: while high quality statistical exercise can serve as an exemplary analysis for public finance scholars, local government officials could hardly apply this methodology in their assessments;

2) obtaining certain financial and economic data for local governments - such as equalized assessed value (EAV), percent of fund balance, capital expenditures, or enterprise fund - is a challenging task;
3) the study focuses exclusively on Chicago suburban governments that represent one regional economy, and thus, some homogeneity in their structural and institutional characteristics exists (e.g. similarity in home rule status/granting procedure, in migration periods, etc.), which may affect validity of the conclusions of the study for cities in other states.

### f. Summary

The above review of the systems of city fiscal health evaluation indicates that as public finance scholars and analysts worked to develop sets of measures that could assist the U.S. city governments in fiscal health assessment, some of them have focused primarily on economic factors, such as poverty and property values (Clark and Ferguson, 1983); some analyzed community development needs (Congressional Budget Office, 1978) or designed fiscal strain index relying on financial performance indicators (Howell and Stamm, 1979), others offered a more complex measure suggesting an estimated standard (Clark and Ferguson, 1983; Ladd and Yinger, 1989; Hendrick, 2004).

While with increasing complexity of designed measures these systems tend to focus on key features of local fiscal structure in order to provide the most realistic picture of fiscal health of a government, they are not evenly helpful to city governments across the country. Studies using these approaches do not assist policy makers without access to all sources of

revenues, nor do they reflect the changing economic base of the cities.[12] As cities' economies change, their revenue structures adjust to the economy within the context of local institutional frameworks. City governments with access to more revenue sources – e.g. property tax, sales tax, income tax, - adjust to economic changes sooner than governments without such access (Ladd and Yinger, 1989). Imposing a rigid fiscal health measure on cities, as if they were all alike in their economic base and consumer needs, ignores variation in cities economic structure, their service needs as well as the diversity of their institutional and leadership characteristics.

As emphasized by Ladd and Yinger (1989) and Hendrick (2004)fiscal condition of a city also depends on its institutional framework - i.e. to what revenue sources the city has access given the existing state and/or local mandates and regulations - and on its economic base. Furthermore, "understanding how well a city is doing (or how good is its fiscal health) cannot be offered by a comparison to an 'average city' but by the analysis of the constraints and opportunities that uniquely affect the city's revenue capacity[13] and expenditure needs. The city's revenue composition, for instance, reflects not only the constrained choices confronting city policymakers based on the city's institutional framework or on its underlying economic base. It also mirrors the locally constrained priorities of designing an 'appropriate' revenue base that reflect the values and desires of the city's residents" (Pagano, Hoene, and Khovanova, 2007).

---

[12] The local economic base, as per Ladd and Yinger (1989) represents the total amount of economic resources within a locality, regardless of whether a government to access them. It is a function of the fiscal environment's economic performance and economic structure. Economic performance represents the jurisdiction's level of economic activity, and is measured by one or more indicators such as percentage unemployment, resident income, and poverty level. Economic structure is the composition of economic activity in the jurisdiction such as land use (residential, commercial, industrial), type of jobs and commerce, transportation facilities, and the regional or state economy.

[13] Revenue base refers to that portion of the economic base that the jurisdiction has access to through specific revenue-raising mechanisms according to state statute and other legal and institutional constraints. For example, if a local government has access to sales taxes, then sales receipts are one part of its revenue base. For governments without the ability to levy a sales tax, sales receipts is simply a part of its economic base (Berne & Schramm, 1986).

At the same time, designing a measure of fiscal health that accounts for multidimensionality of city fiscal, socio-economic, political and institutional features is a challenging task. Given the complexity of U.S. urban environments, no universal measure can be eventually created to serve as a fiscal health "thermometer" for all types and sizes of city governments at all times. Each of the previously developed measures represented a methodological advancement of the time, served its particular purpose and accordingly employed a set of specifically selected variables that corresponded to the goals of conducted research in a particular context. It is not surprising that national discourse on cities fiscal health remains controversial: in order to measure fiscal health of city governments and provide viable policy conclusions, we have to account for the specifics of cities environments, which are very far from been universal.

For this reason, combining the research and analytic strengths of an academic and policy perspectives with the contextual and nuanced understanding of cities' fiscal environments (i.e. constraints and opportunities offered by their socioeconomic, fiscal, political and institutional contexts) this study introduces a measure of fiscal health that focuses exclusively on the uniqueness of city's revenue capacity and its spending needs. To produce a complete and more accurate picture of fiscal health of sample cities, socio-economic, political, and institutional dimensions of their environments are be measured separately, as complexity and indirect nature of the relationships between these dimensions can be hardly reflected by one, comprehensive indicator of fiscal health.

### 3. Innovation research

Innovation research has been undertaken by social scientists in a wide variety of disciplines, including anthropology, sociology, organization theory, economics, and political science. Nevertheless, is no single definition of innovation exists. This is mainly explained by differences in the units of analysis and their characteristics (e.g. organizations vs. systems of organizations), in the types of innovation studied (product or service, production, or policy innovation), and in the characteristics of the processes understood under the concept of innovation (adoption, change, introduction of new approaches, etc.)

The majority of studies consider innovation as a new practice or activity of an organization. Rogers and Kim (1985), for instance, define innovation as "an idea, practice or object perceived as new by an individual or other relevant unit of adoption." According to the authors, it does not really matter whether an idea is objectively new as measured by the period of time since its first use or discovery. If an idea is perceived as new or different to the adopting unit, it is an innovation. Walker (1969) refers to government innovation as "a program or policy which is new to the states adopting it, no matter how old the program may be or how many other states may have adopted it."

Obviously, these definitions of innovation are offered within the framework of an organization. Wolman (1986) points out to another meaning of innovation identified "with respect to the system of which the organization is a part" recalling Becker and Whisler's (in Zaltman, 1973) definition innovation as "the first or early use of an idea by one of a set of organizations with similar goals." Some authors (e.g. Pettigrew, 1973) consider innovation as "the adoption of a change which is new to an organization and to the relevant environment," where only the early adopters of a new activity are considered innovators. Later adopters are viewed as implementers of organizational change but not innovation.

The question of how new or different an activity, practice or change must be in order to be considered as an innovation adds another layer of ambiguity to the concept definition. Mohr (1982), for instance, refers to innovation simply as to "the departure from habit, custom, or tradition" which presents innovation as synonymous with change. G. Downs (1976) in his turn presents innovative policies as those that represent "significant, unprecedented and qualitative departures from past practices." There is also a widespread agreement that it is not novelty but the fact of adoption of a new or different technique/practice that define innovation. Schumpeter (1934) was actually the first to distinguish between invention (the discovery or development of something new) and innovation (the process of adoption of something new). The creation of something new is thus considered as an invention and, once adopted, it becomes an innovation.

The related research additionally presents a range of types of innovation. Zaltman (1973) names five of them: 1) product or service innovation; 2) production process innovations understood as changes in the way of producing products or services; 3) organizational structure innovations; 4) people innovations, or changes in the ways of interaction of people in the organization; and 5) policy innovations, changes in strategies for achieving certain objectives. There are many other innovation classification schemes that categorize innovation along a variety of dimensions: classification of innovation by importance and by the extent of departure from past practice (Zaltman, 1973); by the cost of innovation (Downs and Mohr, 1976), and by the benefits they produce - programmatic, prestige, and structural (Downs and Mohr, 1979).

According to Zaltman's (1973) innovation typology, PM system implementation in a government fits best the fifth classification type - policy innovation, - since it implies changes in strategies for achieving certain objectives. At the same time, performance measurement

may be also viewed as related to organizational structure and/or people innovation as it involves design and establishment of a new system in a government and is used to evaluate government performance in order to improve its efficiency. Given that Zaltman belongs to the camp of innovation scholars who emphasize the importance of fiscal stress for innovation rather than financial resources availability, the author offers no investigation of possible variation in the need for financial resources across the proposed types of innovation. Downs and Mohr (1979) though point out to the significance of financial resources availability (in the form of slack) for organizational type of innovations, particularly for those that require substantial start-up costs. Levine et al. (1981) Singh (1986) and Rogers (2003) also maintain that fiscal resources, slack in particular, encourage organizational innovation.

As for the advantages of PM system implementation, the scholarly research suggests that the PM-produced benefits vary across different types of local governments and are mainly represented by two types - prestige and structural (Kravchuck and Schack, 1996; Bryson, 1995; Berry and Wechsler, 1995; Berman and West, 1995; Cohen and Brand, 1993; Hyde, 1995; Kravchuck and Leighton, 1993). It is important to note that, according to Mohr (1969), innovations stimulated by a desire of organizational members or units for professional status and/or prestige, also occur primarily under conditions of substantial organizational slack.

Since PM system innovation bears the features of organizational and policy innovation (Zaltman, 1973) and produces prestige and structural benefits (Downs and Mohr, 1979), one may assume that PM system implementation necessitated financial and/or slack resource availability. In order to verify if this is the case for PM system implementation in U.S. city government, the current study suggest to examine the relationship between city fiscal health and its performance measurement innovation.

Characteristics of an innovation adopting unit/organization also affect innovation. The literature on policy diffusion, for instance, suggests that characteristics of innovative units matter for the level of innovation adoption and implementation (Mossberger, 2000). Building on Rogers' (1995) five-category classification of innovation characteristics that explain different rate of innovation adoption ( relative advantage – the degree to which innovation is perceived better than idea its supersedes; compatibility – the degree to which innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters; complexity – the degree to which innovation is perceived as difficult to understand and use; trialability – the degree to which an innovation may be experimented with on a limited basis; and observability – the degree to which the results of innovation are visible to others) K. Mossberger (2000) identifies such innovative policy aspects as compatibility (ability to conform to different needs) and relative advantage over other alternatives as the determinants for innovative policy adoption and diffusion in state governments given certain policy characteristics (the latter include goal multiplicity, loose bundling of the policy's component parts, its complexity, ambiguity of the problem the policy is supposed to address, and unpredictability of the results of implementation). Some of these innovative policy characteristics - especially policy complexity and goal multiplicity, require more expertise and/or resources. In this regard, PM system as a novel government policy implementation - which is characterized by goal multiplicity and complexity (Poister and Streib, 1999; Broom and McGuire, 1995) - may be also considered as financial resource-dependent innovation.

It is not new that the majority of innovation studies are focused on private-sector firms and/or organizational innovation concerned with production process, and much less research has been done on service and policy innovation (Rogers, 1983). Wolman (1986) indicates that "the identification of public organization with the more traditional Weberian conception of

bureaucracy suggests important differences between innovation behavior in the public and private sectors." Moreover, Thompson (1969) and Deutsch (1985) point out to the existing tension between innovation and public bureaucracy for the reason that the latter is conservative, and thus views any novel activity or practice as a threat. These conflicting differences between public bureaucracy and innovation may partially explain the fact that little has been done to investigate the relationship between fiscal health of a government and its innovative behavior.

### a. Fiscal health and innovation

Only a few scholarly inquiries focused on the relationship between local government fiscal health and its innovative behavior. None of them investigated the nature of this relationship for city governments, although the latter are often viewed as the leaders in local government innovative practices (Osborne and Gaebler, 1992). At the same time, diversity of city governments' environments - which includes but is not limited to the differences in jurisdictional tax bases and structures, their institutional arrangements, community size, and form of government, - makes the study of the relationship between fiscal health and innovation in local context particularly appealing.

The existing research on innovation presents sharply divided perspectives on the relationship between fiscal health (very often referred to as 'fiscal stress') and innovation. One stream emphasizes the importance of environmental change and performance gaps as stimuli which increase innovative behavior. Zaltman (1973), for instance, argues that changes in the environment create a situation of stress or pressure to which the adoption unit must respond if it is to remain in a dynamic equilibrium with the environment. Thus, an adoption unit is more likely to innovate when its relevant environment is rapidly changing than when it is steady.

Local governments in poor fiscal health condition represent classic example of organizations facing performance gaps caused by environmental change. Indeed, environmental change is frequently presented in the form of one or more of the following: a decline in the local fiscal base; a reduction in intergovernmental assistance; external imposition of tax or expenditure limitations; and increases in the demand for and/or cost of public services. The performance gap is usually recognizable as a predicted budget deficit, a gap between projected expenditures and available revenues. Are these governments more likely to innovate than fiscally healthy governments?

Another stream of research on innovation emphasizes the availability of financial resources as the key to innovation. Bozeman and Slusher (1979), for instance argue that public organizations faced with resource scarcity will engage in maladaptive rather than innovative behavior, becoming more rigid and conservative in their actions. "The essential message is that environmental stress [...] could be expected to breed structural rigidity, formalization, habitual response and increasing interorganizational conflict" (Bozeman and Slusher, 1979: 346). These characteristics are, except perhaps for the last one, generally found to be inversely related to the adoption of innovative behavior. Levine, Rubin and Wolohojlan (1981) argue that the loss of spare resources reduces the potential for fiscally stressed local governments to innovate. The importance of monetary resources, such as rainy day funds or fund balances, for maintaining a balanced budget and preserving financial flexibility is also emphasized by public finance literature (Pagano 2002; Pagano and Johnston 2000; Sobel and Holcombe 1996). Poterba (1994), for instance, indicates that larger fund balances allow state governments to survive fiscal stress, i.e. remain in equilibrium with their environment. MacManus and Pammer (1990) note that fund balances affect the use of expenditure strategies. These studies do not delve into detailed analysis of the types of activities the local

governments with larger fund balances performed to alleviate fiscal difficulties. Nevertheless, the presented arguments lead to assume that governments with larger fund balances may have more financial flexibility in their innovative decisions.

In the context of the current economic crisis, innovation activities that are viewed as a means "to foster more productive, inclusive, and sustainable growth by better tapping the assets and creativity" (Muro et al. 2009) gain more interest in cities, suburbs, and rural areas that make up metropolitan America. As important economic agents local governments try stimulate their economies by increasing revenues or drawing down reserves to maintain spending and by expanding or accelerating local capital projects, especially those with low long-term operating costs. While these novel activities are mostly locally generated and designed, another set of innovative initiatives focused on economic recovery of American urban communities is empowered by the $787 billion American Recovery and Reinvestment Act of 2009 (ARRA).

According to one of the ICMA's (2009) white paper, the innovative ARRA initiatives in urban areas have the following features: they reflect a (long-term) regional goals; adopt multi-jurisdictional or multi-sectoral approaches; embrace integrated solutions overcoming programmatic stovepiping ; catalyze market and private investment employing creative use of private-sector partnerships; employ information management and benchmarking to maximize performance. Therefore, ARRA is viewed as an investment in the fundamental "drivers" of prosperity (i.e. innovations) that allows local leaders the discretion to use these funds strategically maximizing effectiveness of the recovery. Consequently, one may conclude that, in the context of the current economic crisis, the link between fiscal health of the U.S. local government and their innovations is visible in a way that, the localities' economic recovery is largely based on by financial resource-driven innovations.

Thus, if following Muro et al. (2009), Berube (2007), Zaltman (1973), March and Simon (1958), innovation is brought about by environmental turmoil and performance gaps, then fiscally stressed local governments can be expected to be more innovative than non-fiscally stressed governments. Does this pattern equally hold for all types of local jurisdictions? Can fiscally stressed cities be expected to be more innovative than fiscally healthy ones? Do the types of innovation differ for fiscally stressed and non-fiscally stressed governments?

To answer this question this study will examine the relationship between fiscal health of U.S. city governments in eight states and the scope of their implemented innovation. In the context of this research, innovation is understood as a practice of PM system implementation perceived as new or different by the adopting city government - regardless of whether or not this practice is objectively new since its first use or discovery - which results in *new value creation* for the implementing city.

### b. Fiscal slack and innovation

The discussion about the importance of fiscal slack resources for innovation is particularly apparent in academic literature. The majority of studies consider slack as a source of funding for innovative activities. Generally slack refers to the pool of resources available to a government or an organization beyond those necessary to meet its immediate requirements, fund ongoing programs, or achieve explicit objectives (Cyert and March, 1963; March and Simon, 1958). Public finance literature in particular regards fiscal slack as an area of fiscal structure of a government that affects its budgetary solvency and reflects government ability to manage risks, uncertainty, and environmental changes. It can be represented by surplus monetary resources – e.g. the fund balance or rainy day fund, - or non-monetary resources

such as excess employees. Fiscal slack can also be uncollected revenue from that portion of the revenue base that is available to the government through higher taxation (Hendick 2004).

Slack resources are usually assessed in their budgetary terms. In the most common typology, researchers distinguish between available, recoverable, and potential slack resources (Bourgeois, 1981; Bourgeois and Singh, 1983; Sharfman et al., 1988; Singh, 1986). Available slack (or unabsorbed) represents resources available and not yet allocated for particular activities, for instance, resources available to fund innovation. Recoverable slack (or absorbed) represents resources that have been absorbed by organization (e.g., excess overhead) but which could be recovered through increased efficiency. Potential slack represents future ability of an organization to generate resources, such as creating additional revenue sources or borrowing.

Although various definitions of slack exist in the literature, all of them reflect the notion of excess resources that both cushion the government from environmental stress and represent an opportunity for discretionary allocations, such as innovative activities. According to Rosner (1968), slack allows an organization to acquire innovation, absorb failure, carry innovation development and implementation costs, and explore ideas ahead of its actual needs. However, some have argued that, at the organizational level, slack reflects inefficiencies in a way that poor internal control systems in public corporations contribute to inefficiencies in deploying such resources (March and Simon, 1958; Jensen, 1993). Nohria and Gulati (1996) explained this by the fact that slack gives rise to reduced discipline in the management of projects thereby deteriorating innovation outcomes.

The relationship between slack and innovation can be also viewed as a special case of the relationship between slack and organizational performance. Most discussions of slack and its impact on organizations go back to the work of Cyert, March, and Simon on the behavioral

theory of the firm (Cyert and March, 1963; March and Simon, 1958). Taking a positive view, March and Simon stated that slack contributes to a differentiation of goals within the organization. Addressing the slack-innovation relationship, they note that "when an organization has slack money or manpower not committed to going programs, various specializations of function may arise with respect to commitment to new programs and program elaboration" (1958: 187). Thus, their view supports the notion that increased slack will facilitate innovation. However, little has been said about when such slack would be actually devoted to innovation activities as opposed to other alternatives. Using similar arguments, others (e.g., Downs and Mohr, 1979; Levine et al. 1981; Singh 1986; Rogers 2003) have argued that slack resources encourage innovation as innovation activities consume resources, and the risk associated with innovation can be better born by the firms with greater resources or those with government liability guarantees (Worthington, 1995).

Building on March and Simon (1958) and Cyert and March's (1963) assumptions public administration literature largely emphasizes the importance of government slack resources for innovation, although two streams of thoughts have similarly emerged based on Cyert and March's (1963) classification of innovation into slack-induced (i.e. the one that requires availability of extra resources) and problem oriented (i.e. the one that represents the efforts to solve problems or to close apparent performance gaps and is "justifiable in the short run and directly linked to the problem"). The followers of the first trend argue that innovations are slack-induced, and availability of extra resources is a necessary condition for their implementation. The supporters of the second contend that organizational innovations are problem-originated, and organizations innovate while searching for solutions to the difficulties they face.

A more critical examination of this discrepancy in views shows that it is highly predetermined by the way in which the slack resources are operationalized. Some studies measure slack in its budgetary terms (i.e. as the excess of financial resources available over required costs), others in terms of organizational resources that include human, physical, and financial capital. Thus, empirical findings and conclusions of the related studies largely depend on the approach used. For instance, while measuring resources "by per offender expenditure per delinquents in institutions," Downs (1976)[14] found little correlation between slack resource level and innovation. Conversely, using size of agency budget as a measure of slack resources Mohr (1969) identified a strong relationship between expenditure and innovation in public health agencies.

In addition, many scholars in both camps have assumed that 'problem-oriented' innovation represents an opposite to 'slack-induced' one, and thus, does not imply investment of slack resources. A more careful analysis of slack-innovation relationship demonstrates that this is not always the case, and that the two types of innovation may even co-exist in organizational context. Moreover, problem-oriented innovation is also most likely to occur under conditions of substantial organizational slack. As an illustration, Rogers (2003) argued that, even in the absence of a performance gap, most organizations "engage in an opportunistic surveillance by scanning the environment for ideas that might be beneficial to the organization. ...Most organizations face many problems ...if one begins with a solution, there is a good chance that the innovation will match some problem that is facing an organization." Therefore, according to Rogers, many organizations continuously scan for innovations - or engage in so-called 'problemistic search' (Cyert and March, 1963) - and match any promising innovation found with some relevant problem. Mohr argues (1969, p.

[14] Downs, George W. (1976) Bureaucracy, Innovationan dP ublicP olicy,L exington, Mass.: Lexington Books

122) that this type of innovation is stimulated primarily by a desire of organizational members or units for professional status and/or prestige, and occurs under conditions of substantial organizational slack. Downs and Mohr (1979) additionally point out to the significance of slack resources for organizational innovations, particularly for those that require substantial start-up costs.

Cohen, March and Olsen (1972) posit a well-known garbage can model which actually encompasses both categories of Cyert and March's classification of innovation. The authors see an organization as "a collection of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be the answer and decision-makers looking for work." The organization can thus be regarded "as a garbage can into which various kinds of problems and solutions are dumped by decision-makers as they are generated." Hence, at some point, a problem finds a solution in the garbage can (the case of performance gap or problem-oriented innovation), while at other times a solution fastens up to a problem (slack-induced innovation through environmental scanning). Availability of monetary resources remains equally important through the whole process of 'matching' regardless whether it is a problem that finds a solution, or it is a solution that 'fastens up' to a problem.

This review demonstrates that positive relationship between slack resources and innovation – where slack was regarded as creating funding opportunities for innovation – has been observed much more frequently in the literature then negative association, where slack was found to encourage wasteful, undisciplined spending that impairs innovation activity. At the same time, following Bourgeois (1981) postulation that a curvilinear relationship exists between organizational slack and success in general, Nohria and Gulati (1996) took this argument to the slack-innovation relationship in their study of the departments of two

multinational companies. The researchers argue that too little of organizational slack inhibits innovation as it discourages any kind of experimentation whose success is uncertain, while too much slack "breeds complacency and lack of discipline" and leads to poorly managed spending and improper oversight of innovation activity. Their conclusion still supports the argument that slack resources is a necessary condition for innovation, they point out, however, that intermediate level of organizational slack is optimal for innovation.

Although the Nohria and Gulati (1996) study is important for resolving the debate between those who are convinced that slack encourages innovation and those who suggest that slack may, in fact, inhibit innovation, generalizability of their findings ( especially for the study of innovation in the local government) needs to be tested for a few reasons. First of all, organizational innovation is not always equal to organizational success. Hence, replication of Bourgeois (1981) hypothesis on slack and success to the study of slack and innovation lacks theoretical reasoning. Furthermore, Nohria and Gulati propositions rest on the following three observations that find little academic support. First of all, the authors accept general agreement that slack promotes organizational experimentation or spending on various projects. They then establish the difference between the pro- and counter-slack camps based on whether or not slack resources are wisely expended. Second, they assume that the number of innovative activities logically increases with slack increase, and it is only the outcomes from such initiatives that may produce diminishing returns, and thus, result in negative relationship between slack and innovation. Finally, they assume that the quality of management is diminishing over the selection, support, and timely termination of projects with slack increase.

In addition, the authors often use perceptual, self-report measures of both slack and innovation, which are subject to social desirability effects as well as to "same-source" and

"same-method" biases. For instance, Nohria and Gulati's study focused on the departmental rather than organizational level of analysis, using departments from two multinational companies. Consequently, their slack and innovation are operationalized at the department level. Slack is measured as "a loss of output" (the higher is the loss in output the lower is slack). Innovation is very broadly defined as a phenomenon that includes "any policy, structure, method or process, product or market opportunity that the manager of the innovating unit perceived to be new." Furthermore, the measure of organizational slack was created based on three (highly correlated) variables created as a result of three multiple-choice survey questions. The questions were built to inquire with the department managers about how significantly the work of their department would be affected if due to some sudden development the department was to lose 10% of its workforce. There are a few methodological issues here as to the survey methodology and the slack measure computing. The question whether the surveyed individuals can accurately assess how much they would be affected by a sudden change, and even if they can do so, whether the department heads would be enthusiastic about making such a revelation remains open. Composing a composite slack measure based on three theoretically ungrounded survey questions points out to a methodological problem. Moreover, since departments within the same organization are, to a great extent, operating under the general munificence or constraints of the larger organization's resources, the generalizability of the findings needs to be further tested in variety of public and private sector environments.

This literature review demonstrated that slack has a positive relationship with organizational performance, risk-taking, and decentralization of decision making. The presence of slack can relax managerial controls and allow for more discretion in the allocation of funds to innovative projects (Singh, 1986). During times of economic stress, slack buffers

the organization from the uncertainties of new project initiations and reduces the personal risks or consequences associated with failure, thus fostering such activities (Bourgeois, 1981). These findings need to be further examined and tested not only in private firm environment but also in the public sector context. There is also a need to extend the current study on slack and innovation by employing independent and more objective measures of both concepts, using not only private firm- but government agency-level data, and more closely examining the nature of any found relationship between slack and innovation, and even factors that may moderate it.

Therefore, this study aims to further explore and extend previous research on the nature of the relationship between slack and innovation in US city government context by addressing some of the methodological limitations of the previous research thereby testing the robustness and generalizability of existing findings.

It is important to note that one particular feature of local government innovation is that it is heavily dependent on internal funding requiring internal resources to support it. The long and unpredictable payback, the uncertainty of future outcomes, and the intangible nature of the assets produced make it difficult to finance local government innovation with external sources. Thus, it is reasonable to regard the availability of internal funding as a main determinant of city government innovation. Of the three above discussed types of slack, potential slack - i.e. future additional revenue sources or borrowing - is the least likely to play a major role in the internal funding of innovative activities for the reason that it is not a current resource (Herold et al. 2006). Moreover, debt financing has many other implications for a government, including debt service expenses, and impact on its credit rating. While absorbed slack is theoretically recoverable, the recovery may be difficult. To the degree that slack has been absorbed by the government, there are forces such as power and politics

(Pfeffer, 1992) that work against slack recovery. It is usually during times of economic crisis that such recovery is attempted, and then any recovered resources are more likely to be used to cut costs and increase efficiency than to finance innovation activities. Thus, available or unabsorbed slack is the most appropriate measure for investigating the relationship between fiscal slack and innovation in US city government, since it represents unexploited internal resources that could be used for innovative activity financing.

For these reasons, and following in particular Mohr (1969), Cyert and March (1963) and March and Simon (1958), whose findings indicate a strong relationship exists between fiscal slack (defined in its budgetary terms) and innovation in public agencies, this study recognizes fiscal slack as a separate variable defined as the excess of financial resources in a government available over the required costs of its service (Cyert and March, 1963; Wolman, 1986).It proposes an index of fiscal slack that combines two main indicators of surplus resources in a government - percentage unreserved fund balance plus percentage reserved fund balance (or Total Fund Balance), - in order to investigate the importance of this variable for the relationship between fiscal health of city governments and the scope of their innovation implementation.

### 4. Performance measurement as innovation

As previously discussed, productivity improvement was given a top priority by local governments in their responses to the experienced financial instabilities (GAO, 1978; Holzer, 1980; ICMA, 1990; Poister and Streib, 1989). This is not surprising as by definition the concept of productivity improvement is inclusive and, thus, appears to be well-integrated in many of the government crisis response strategies, i.e. additional revenue acquisition, increased reliance on individual citizens, cost cutting, etc. According to Ammons and King's

(1983), the notion of productivity improvement captures 1) the efficiency with which the resources are consumed in the effective delivery of services, 2) the use of any of progressive techniques that seem to work better in a given case, 3) improvement in quality of services, 4) satisfying public and elected officials, 5) increasing management effectiveness, and 6) doing "more for less" as popularized by ICMA (1990).

Productivity improvement is usually estimated by means of measuring performance. Public managers use performance measures to evaluate, control, budget, motivate, learn and improve (Behn, 2003) or, as one of the city majors put it in more practical terms, to receive citizen feedback on service delivery, safety, quality of life, the city's amenities, and to essentially answer the question of "How am I doing?" (Pagano et al. 2007). By allowing citizens to grade government performance, to design their own measures of government accountability, and to otherwise make the scale of government services understandable to the citizens performance measurement encourage governments "to steer, not row." "It helps citizens and customers judge the value that government creates for them. And it provides managers with the data they need to improve performance" (Osborne and Plastrik, 2002). Kravchuck and Schack (1996) add that effective performance measures are designed to drive improvement efforts, decision making, resource allocation, accountability promotion, control, planning, and evaluation.

The historical path of performance measurement is traced from the early 20th century to the renewed interest to performance and accountability during the 1990s. Measuring workload and worker efficiency, was clearly part of the scientific management approach at the turn of the century (Taylor, 1911), and the International City Management Association (ICMA) presented a useful tool for measuring municipal activities in 1943 (Ridley and Simon, 1943). In more modern times concern for measuring performance of public entities arose with

growing interest to more effective program budgeting in the 1960s and program evaluation in the 1970s (Poister and Streib, 1999). H. Hatry with his colleagues from the Urban Institute started a series of publications promoting the use of performance measures and providing instruction on how to design and use the measures (Hatry and Fisk, 1971; Waller, et al., 1976; Hatry, et al., 1977). Other authors examined the ways of incorporating performance measures in management processes (Altman, 1979; Epstein, 1984; Steiss, 1985; Wholey, 1983).

Renewed interest in performance measurement in the 1990s was a result of a number of events in the field of public administration. Taxpayer revolts, pressure for the privatization of public services, legislative initiatives to control spending, and the delegation of responsibilities to lower levels of government generated increased demands to hold government agencies accountable for the results produced and the resources spent. In addition, the reinventing government movement initiated by Osborne and Gaebler's (1992) *Reinventing Government* and Vice President Al Gore's *National Performance Review* (1993) called for a new way of thinking about public agency performance definition and measurement. As a consequence of these external pressures, public managers resorted to a variety of results-oriented management tools and approaches aimed at reinforcing management capacity of their agencies including strategic planning (Bryson, 1995; Berry and Wechsler, 1995), more comprehensive strategic management (Eadie, 1989; Koteen, 1991; Vinzant and Vinzant, 1996), quality management (Berman and West, 1995; Cohen and Brand, 1993; Hyde, 1995; Kravchuck and Leighton, 1993), and others. These management tools necessitated highly specific performance measurement systems that helped to evaluate and verify more 'effective function' of '*effective* government' (Osborne and Gaebler, 1993 p. xviii), thus producing a "reinvigorated", as per Poister and Streib (1999), interest in performance measures.

Evidence of this interest is proven by the establishment of the Comparative Performance Measurement Consortium that included 44 jurisdictions in conjunction with the ICMA. This Consortium established uniform definitions of performance indicators in numerous fields and compiled comparative data on these measures to allow the jurisdictions to compare their own performance against other similar units in the U.S. (Urban Institute and ICMA, 1997).

As of today, many local governments in the U.S. share a strong commitment to the effective use of performance measures. However, the extent to which performance measurement has been seized by local governments is still not clear. Different research approaches employed different definitions applying them to different samples – yet these efforts have yielded inconsistent findings. For example, in a series of surveys of municipal managers in cities with population 25,000 and above conducted by Poister and McGowan (1984) and Poister and Streib (1989; 1994) 70 percent of the respondents indicated that their jurisdictions used performance monitoring systems. The authors concluded that the use of performance measures had expanded substantially in U.S. cities in the late 1970s and early 1980s, and then leveled off within the next ten years. In a survey of mayors and managers in municipalities with population 25,000 or more conducted in 1988, Cope (1992) identified only 33 percent of respondents using performance measures. A more recent survey conducted jointly by GASB and NAPA in 1996, 44 percent of municipalities indicated that performance measures had been developed for a substantial number of programs, and of them 37 percent reported that these measures are used in decision making processes such as budgeting, performance evaluation, and strategic planning for a substantial number of programs. It is noteworthy that in contrast with the previous periods of increased popularity of performance measurement (e.g. program budgeting in the 1960s and program evaluation in the 1970s), the

current 'reinvigoration' of interest in performance measures is more mission driven and outcome oriented (Poister and Streib, 1999). Today's PM systems tend to measure performance against established goals and objectives, and to incorporate performance measures in a variety of management processes (Poister, 1997) that are not necessarily focused on estimating the efficiency with which public resources are consumed but on the effectiveness of public management, public programs outcomes, service quality improvement, and on degree of satisfaction of public and elected officials. These days, not only local but also state governments have implemented macro-level processes for statewide strategic planning, budgeting, and performance measurement (Broom and McGuire, 1995). In fact, a study conducted by Melkers and Willoughby in 1998 demonstrates that 47 out of 50 states use some form of results-based budgeting and require agencies to report associated performance measures. Hence, performance measurement has become an essential component of professional public management.

In addition, and similar to the above discussed inconsistency in perspectives regarding the relationship between fiscal health and innovation, there is no conclusive evidence in the performance measurement literature on the relationship between productivity improvement (measured using performance indicators) and fiscal health of a government, i.e. whether productivity improvements in local government are hindered or stimulated by poor fiscal health of a government. On one hand, McGowan and Stevens (1983) indicate that productivity improvement at the local government level may be far more difficult under fiscal stress. This view is also supported by May and Meltsner's (1981) study of the response of ten San Francisco Bay Area organizations to California's proposition 13. The analysis concluded that the tax limitation (as a productivity improvement measure) placed the organizations in "a vicious circle of declining public confidence, revenue gaps, and reduced effectiveness"

(p.177). On the other hand, Stipak and O'Toole (1993),[15] and MacManus (1984) considered poor fiscal health condition (or "fiscal strain") as a potential catalyst for various productivity improvement efforts. Other studies demonstrating that fiscal stress has prompted local governments to adopt productivity improvements include those by Greiner (1986), Cope and Grubb (1982), and MacManus and Grothe (1989). These differences in academic perspectives are largely explained by the characteristics of the examined innovations and the variation in the incentives for their adoption. As indicated in public administration and economic literature, innovations that are problem-driven - those that result from the loss of local government's balance with environment, environmental turmoil or performance gaps, - stimulate organizations to seek solutions to their current situations via implementing new strategies and behaviors (Cyert and Mart, 1963; Wolman, 1983). In case of local governments such strategies as acquisition of additional revenue or cost cutting fall under problem-driven innovation category and may result in a short-term improvement of local economic and fiscal conditions. Innovations that necessitate upfront investment of resources and/or require skilled stuff or modern technology usually are not initiated during the time of resource scarcity or in poor fiscal health conditions. These innovations occur when resources are plentiful and contribute to professional status and prestige of an adopter rather than solve his current problems (Mohr, 1969). The fact that current performance measures are mostly objectives- and outcome oriented (Poister and Streib, 1999), - and thus do not necessarily reflect productivity or the efficiency with which the resources are consumed in the effective service delivery, - may also represent one of the reasons for which no consistent evidence of the relationship between government financial health and its performance has been established.

[15] Stipak and O'Toole (1993) chose the statement "Managers may use fiscal stress to increase productivity" as an epigraph to their article in PAR.

The presented above arguments imply that characteristics of performance measures as an innovative policy tool to evaluate government performance do matter for the degree of this innovative policy integration with other government policy domains and activities. Thus PM characteristics have their effect on the scope of their implementation. In its turn, the public administration literature identifies three major features of local government that facilitate implementation of such innovative policy as performance measurement. These features include: 1) resource availability to support the introduction of new idea or change even though "slack fiscal resources are rare, if not extinct" (Berman and Wang 2000; Jordan and Hackbart 1999); 2) existing environment for change, or flexibility in the implementation of novel practices (Sreib and Willoughby, 2004); and 3) sustained government leadership that supports a culture of change in order for performance measurement innovations to successfully become institutionalized within a government (Melkers and Willoughby, 1998; 2005). The importance of resource availability and environmental characteristics for innovative policy implementation are discussed in the other sections of this Chapter (see. e.g. *Innovative policy diffusion, Fiscal health and Innovation, Innovation research, and Form of government sections*).

This literature suggests that, in fact, public managers resorted to PM systems as a results-oriented management tool for reinforcing management capacity of their agencies as a result of external pressures - taxpayer revolts, the privatization of public services, legislative initiatives to control spending, and the delegation of responsibilities to lower levels of government, - and in order to satisfy the increased demands to hold government agencies accountable for the results produced and the resources spent (Osborne and Gaebler, 1993; Poister and Streib, 1999). This implies the following two conclusions. First, performance measurement implementation in today's city governments can be regarded as a part of the

reinventing government initiatives, - generally defined as initiatives concerned with application of innovative solutions to public policy issues, especially in the field of government administration, - that has become an essential component of professional public management. Second, government fiscal health has not been viewed as a primary determinant or reason for PM system implementation in local governments.

Another important point is that today's PM systems that tend to measure performance against established goals and objectives (Poister, 1997) are not necessarily focused on estimating the efficiency with which public resources are consumed but on the effectiveness of public management, public programs outcomes, service quality improvement, and on degree of satisfaction of public and elected officials. Thus, in reality, no distinct connection has been intended between PM system implementation and fiscal health of PM implementing jurisdictions. Hence, while performance measurement has become an essential component of professional public management, its relationship between fiscal health of an implementing city necessitates a more thorough examination.

These conclusions reinforce the necessity for deeper understanding of the character of the relationship between local governments' fiscal health and their ability to introduce new policy initiatives. As a novel strategy initiated by local governments in their search for productivity improvement, performance measurement implementation represents a suitable proxy for the study of innovation in local government context. The existing scholarly work on the subject additionally suggests that, in order to answer the question on whether or not this innovation could be regarded as a result of fiscal austerity or a consequence of good fiscal standing (health) in the U.S. cities, the related study should account for performance measurement characteristics and the determinants of this innovative policy implementation in the local government context.

### 5. Innovative Policy Diffusion

Government innovations occur as a result of the implementation of related policies. The answers to the questions on how these policies emerge and diffuse are provided by policy diffusion literature.

The argument exists in the literature on policy diffusion that characteristics of innovation as well those of innovative units matter for the level of innovation adoption and implementation (Mossberger, 2000, pp.121-122). Rogers (1995, pp.208-251) in its famous study on diffusion of innovations identified five major characteristics of innovation that explain different rate of adoption: 1) relative advantage – the degree to which innovation is perceived better than idea its supersedes; 2) compatibility – the degree to which innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters; 3) complexity – the degree to which innovation is perceived as difficult to understand and use; 4) trialability – the degree to which an innovation may be experimented with on a limited basis; and 5) observability – the degree to which the results of innovation are visible to others. Building on these assumptions, in her study of the diffusion of policy labels K. Mossberger (2000) identifies such innovative policy features as compatibility (ability to conform to different needs) and relative advantage over other alternatives as the determinants for innovative policy adoption and diffusion in state governments given certain policy characteristics (the latter include goal multiplicity, loose bundling of the policy's component parts, ambiguity of the problem the policy is supposed to address, and unpredictability of the results of implementation). These findings are taken into account while developing 'the scope of innovation' measure for the purpose of this work.

In addition to the arguments presented in public administration, economics and innovation research, policy diffusion literature accentuates, among other factors, the

importance of resource availability and population size for government innovation implementation (Mooney and Lee, 1995). For instance, Clark (1985), Gray (1973), Hwang and Gray (1991), and Mooney and Lee (1995) conclude that state government wealth, or availability of resources, is important for developmental policy which implies new activities implementation. Clark (1985) concludes that resources are particularly important for complex policies that require new administrative infrastructure for implementation. In his study of the diffusion of innovation in American states, where he aims to explain why some states adopt innovations more readily than others, Walker (1969) names wealth and urbanization as general patterns of state policy innovation. Additionally, the author presents a strong argument that demographic factor such as population size of an adopting entity is crucial for the scope and speed of innovation implementation. The larger and the wealthier the adopter is, the higher it will score on innovation. Walker admits that "the great cosmopolitan centers in the country, the places where most of the society's creative resources are concentrated, would be the most adaptive and sympathetic to change, and thus the first to adopt new programs." Particularly important for the purpose of this study is the fact that Poister and Streib (1999) in their review the inconsistent use of performance measurement among local governments found that larger local governments are more likely to adopt performance measurement.

Building on the above presented arguments that of wealth (or resource availability), size, and the level of urbanization of an innovative entity are crucial for the scope of its innovation implementation, this research will focus on the U.S. city governments with the population above 25,000 and below 200,000 people while examining the relationship between local government fiscal health and its degree of performance measurement innovation adoption.

### 6. Fiscal Autonomy

Although the relationship between fiscal health and innovation has not been clearly explicated in the reviewed literature, such institutional factor as local government fiscal autonomy has been studied in its connection to both government fiscal health and its innovation. Chapman (1999) in his analysis of fiscal health and fiscal autonomy of California governments points to the importance of local governments' fiscal autonomy for maintaining their sound fiscal condition or health. The author emphasizes that it is especially difficult for localities to alleviate fiscal scrutiny (or "fiscal stress," in Chapman's words) if the institutional arrangements of the governmental sectors impose additional constraints on fiscal autonomy. He argues that:

> The structural cause of fiscal stress relates to the built-in set of rules that the jurisdiction has enacted. These rules, whether formal laws or informal understandings, force the jurisdiction to behave in certain ways, including those that affect the jurisdiction's fiscal condition. ... To the extent that the jurisdiction can take actions to offset this fiscal stress, it has fiscal autonomy. To the extent that it is forced to continue doing business in the same manner... or is mandated by the state to provide certain services..., it has limited autonomy (p.14).

Local government autonomy is also important because it allows local jurisdictions to undertake activities that maximize the value of the community - economic and public, - by introducing innovative productivity-advancing practices and thus, contribute to the improved fiscal health of the government. Kirlin (1996) following a stream of economic literature (e.g. Sonstelie and Portney, 1978) additionally argues that a function of local government is to make decisions in a variety of arenas that add value to place for each jurisdiction. In order to be able to make these decisions, the political and fiscal autonomy are necessary to allow local governments to differentiate themselves from other jurisdictions through the use of their innovative value-maximizing activities.

Boyne (1996) defines local government autonomy as the ability to innovate, experiment, and develop policies that can vary by jurisdiction. He argues that local governments should have enough autonomy to compete with each other in terms of service quality and quantity. Fiscal autonomy is considered as a part of a more general concept of local government autonomy. It relates to the ability of a government to raise enough revenues from the local economy and to determine how to spend those revenues. When local actors seek to gain enough revenues for public service delivery, how this is achieved depends on the extent to which state legislatures empower (or restrict) the ability of these to meet these demands. The degree of discretionary authority available to local government officials is often associated with the concept of home rule, or "municipal independence" as Tocqueville (1945) called it.

### a. Home Rule

The U.S. Constitution makes no mention of cities, counties, or any other types of local jurisdictions. The type, number, form, and function of local governments in the U.S. are prescribed by the constitutions and statutory laws of the state. The legal system of each state determines the powers the cities may exercise, and thus, local governments in the U.S. are often called "the creatures of the state" (Frug, 1999). Consequently, local government fiscal structure is largely determined by the state government. States require delivery of certain services, provide financial resources; states also encourage or discourage policies that can exacerbate competition or enhance cooperation within a region. For instance, in such states as Ohio and Florida sales taxes are allowed only to counties, not cities. This means that if city governments would like to generate more revenue from particular revenue sources, states may restrict their access to the revenue base.

Given that states vary greatly in their cultural, economic, historic, political, demographic and social characteristics, the diversity in the ways they control local governments is vast. In some states, local governments are not more than adjuncts of the state governments. In the others, localities have extensive discretion in decision-making. They proscribe access to tax authority, mandate delivery of certain services, provide financial resources based upon state-developed formulas, and establish policies that can intensify competition or enhance cooperation between localities.

The term *home rule* emerged during Progressive movement in the late 1800s, and *à l'époque* referred to proposals to amend state constitutions or pass state laws that would decrease state legislators control and give more power to local governments. In the public administration literature, this term is also used to mark the presence of any statute or constitutional provision that enhances the authority and opportunity for local jurisdiction to control its own affairs (V. Ostrom, Bish, and E. Ostrom, 1988). Home rule governments are considered to have more discretionary authority in addressing their problems, satisfying their needs and designing their governmental policies. If the state grants the status of home rule to a city government, then the government will have more autonomy in designing its economic and financial wellbeing, which includes tax and fiscal policy system. Local government scholars have long maintained that home rule provisions define the powers of local government (Bollens, 1986; Feiock and Carr, 2001; Miller, 1981). The notion that these provisions have important implications for local government fiscal structure has approached conventional wisdom (Lewis, 2000). This outcome has even been termed the "unintended consequences" of restricting local government autonomy (Bowler and Donovan, 2004). Although the states have fairly similar structures of local government, there are substantial differences in the home rule powers permitted to these local units. Home rule is "the power of

a local government to conduct its own affairs - including specifically the power to determine its own organization, the functions it performs, its taxing and borrowing authority, and the numbers, types, and employment conditions of its personnel" (Advisory Commission on Intergovernmental Relations (ACIR) 1981:1).

While no previous study have examined all four home rule areas covered in the ACIR definition - function, structure, finances, and administration - several have investigated one or more forms of home rule. By far, the area of autonomy that has received the most attention is fiscal home rule defining taxing and borrowing authority of local governments. The impact of tax and expenditure limitations (TELs) on local revenue systems has also received considerable attention in recent years (MacManus 1981; Mullins and Joyce 1996). In his study of the link between municipal and county government autonomy and the number of special districts in each state Carr (2006) investigated the effects of administrative (state mandates related to collective bargaining, merit system, required training for public officers, etc.), fiscal, and functional (home rule status granted to municipal governments: home-rule/non home-rule) forms of home rule on special districts creation. The study indicated varying impact of the home rule forms, i.e. higher numbers of special districts are seen in municipal and county governments with weaker form of fiscal home rule or lower degree of fiscal autonomy of municipal governments

Since local governments are "the creatures of the state," whose form and functions are prescribed by the constitutions and statutory laws of the state, examining the effect of intergovernmental institutional arrangements, such as home rule and tax and expenditure limits, on the relationship between city fiscal health and scope of its innovation implementation is critical for understanding the role of state institutions in local government innovation adoption. By answering the question of whether or not the greater local

government fiscal flexibility affects the relationship between city fiscal health and the scope of its innovation, this study will also contribute to local government autonomy and innovation policy diffusion literature.

In order to answer this question, the current research will examine the effects of such institutional factors as fiscal and functional form of home rule on the relationship between city government fiscal health and its innovativeness.

### b. Tax and expenditure limits

Existing research often presents functional and fiscal forms of home rule by categorical variables capturing correspondently functional home rule status of a government (home rule or non-home rule), i.e. state provided degree of fiscal authority to a local government to access major sources of tax revenue, and fiscal home rule, or the level of fiscal limitations (TELs) in effect (Carr, 2006; ACIR, 1993; Krane et al., 2000).

Tax and expenditure limits - commonly referred to as TELs - deserve particular attention as they represent one of the most common types of institutional limitations imposed on local governments. Pressure from citizens - who regarded TELs as a measure to decrease the level of property taxes, to reduce government size and/or waste, and to make government more efficient (Rubin, 1998; Ladd and Wilson, 1992)[16] - has led to legislative mechanisms (or established institutional agreements) to limit the ability of state and local governments to raise taxes and expenditures. There are two types of TELs: direct, or those that limit total revenues, expenditures, or appropriations; and procedural - those that require voter approval or a legislative super majority vote to levy new or higher taxes.

---

[16] Ladd, Helen F., and Julie B. Wilson. Why Voters Support Tax Limitations: Evidence from Massachusetts' Proposition 21/2. *National Tax Journal* 35 No. 2 June, 1982):121-47.

Voter support for TELs is often focused on a desire for lower taxes and more efficiency in government. TELs are particularly popular among taxpayers who regard these limits as a solution to the principal-agent problem. In the normative framework, government is generally unconstrained. Its power to tax is held both independent of taxpayer's consent and of any obligation to use the resources obtained for taxpayer approved purposes (Brennan & Buchanan, 1979). In a democracy, where taxation is built on consent, the taxpayers (principal) believe that their political representatives (agent) are acting in the taxpayers' best interests. Principal-agent problem arises when the representatives' actions diverge from the taxpayers' interests. Failure to address the taxpayers' issues and concerns prompts the latter to take direct action through binding referendum and tax revolts (Rubin, 1998). As a result, local jurisdictions are constrained significantly through voter- and/or state-imposed (constitutional or statutory) TELs in a way that tax and spending limits require local governments to tax (access their revenue base) or spend according to state regulations.

Although several state-level TELs were passed before California's *Peoples Initiative to Limit Property Taxation* (Jarvis-Gann Amendment Article XIII A; commonly referred to as Proposition 13), it is generally acknowledged that California's Proposition 13 began the modern tax movement in 1978[17]. A boom in California's real estate, coupled with new mechanics of reassessment, translated into higher property assessments and tax bills for property owners. Proposition 13 sought to constrain growth in property tax revenues by requiring all real property to be assessed at its full market value as of the FY 1975-76, with assessments increasing by no more than 2 percent per year, unless the property was sold. In addition to the property tax limit, special taxes were subject to a two-thirds voter approval requirement. Less than two years after Proposition 13, Proposition 4 was ratified. Proposition

[17] Colorado (1977); Arizona, California, Hawaii, Michigan, Texas, & Tennessee (1978); Louisiana, Oregon, Nevada and Washington (1979)

4 restricted growth in state and local government spending to afactor equal to population growth plus inflation.

To date 31 states have approved 33 TELs (see in Appendix F for more details). Six of these TELs were voter initiated measures; 4 of which were direct constitutional amendments (California, 1979; Colorado, 1992; Michigan, 1978; and Missouri, 1980) while the other 2 measures (Washington, 1979;[18] Massachusetts, 1986) were indirect statutory measures. 11 of the 33 TELs were legislative amendments.[19] Of these 11 TELs, 2 (Hawaii and Tennessee) were introduced during a constitutional convention. A majority of the TELs have been proposed and approved by the state legislature (16 TELs). The 16 TELs are statutory TELs. As most states had voter initiative provisions, legislators preempted voter action by crafting TELs in their attempt to prevent more severe voter initiated action. Legislators in states without the initiative have often done the same, as they were concerned with retribution at reelection time for failing to act (Mullins & Wallin, 2004; Saeki, 2006). Such actions have been motivated by a fear that voter initiated limits would do more damage than necessary to credit ratings, borrowing costs, and administrative efficiency - thereby undermining the government's ability to respond to legitimate demands (Rubin, 1998).

Strict TELs have hindered a government's ability to cope with unanticipated events and revenue shortfalls. The oft-cited Colorado's "*Tax Payers Bill of Rights*"(TABOR), contributed to the state's 9 percent budget deficit in 2002, the third worst in the country (Martell & Teske, 2007). The TABOR requires the state to refund all revenues above the revenue limit. Between FY 1996-97 and FY 2000-01, the state has refunded approximately $3.25 billion, while it had to make temporary and permanent tax cuts to keep revenues within

[18] Washington's initial TEL was an indirect amendment to the state's statutes, while the limit introduced in 1993 was a direct amendment to its statutes.

[19] Legislative amendments are constitutional amendments placed on the ballot by the legislature. Legislative amendment provisions are available in all states except Delaware - whose constitution does not require voter approval for any constitutional amendments proposed by its legislature (Waters, 2003).

the limit. These reductions in revenues have ratcheted down state spending and led to a significant decline in the quality of services delivered. While the TABOR[20] empowered taxpayers, it limited government flexibility. Not only did the TABOR restrict growth in state spending, the limit further required that all tax increases, debt issues, and current spending limits be amended only by voter approval. Thus, strict TELs cause end-runs around the limit, including the use of debt proceeds to finance current services (Bennett & DiLorenzo, 1982; Clingermayer & Wood, 1995; Kioko, 2006), a shift in expenditures to local government (Kiewiet & Szakaly, 1996; Rueben, 1997), and introduction of amendments to the limits, which nullifies the original restriction and its potential efficiency.

Three decades after the "Tax Revolt" there is still no consensus on the institution's effectiveness. There is no consistent evidence to suggest that the TELs have been effective in constraining growth in state spending. Notwithstanding, the limits have become a non-issue in state budgeting. TELs are continually perceived to be a tool for limit spending increase, and are generally ratified as part of the state's budget deficit recovery plan. States that have imposed similar limits on local governments have seen a shift in the tax structure away from broad based taxes (specifically property tax), and increased reliance on state aid to local governments, user charges and fees, and miscellaneous revenues. However, they have not experienced a significant decline in local government spending (Hoene, 2004; Skidmore, 1999).

At the local level, the most common TELs affect local governments' property taxes, while general revenue/spending limits are less common. Pagano et al. (2007) provide the following distinction between the property tax limitations, based on different types of limits:

---

[20] The most well-known example of TABOR legislation is in the state of Colorado, where TABOR was enacted in 2000 but suspended five years later regarded as "a drag on the state's economy." See Center of Budget and Policy Priorities at the http://www.cbpp.org/cms/index.cfm?fa=view&id=2944

1) tax limitations that seek to cap the property tax rate; 2) limitations that seek to limit growth in local property assessments; and 3) those that seek to limit the total levy (revenues) growth from property taxes from year to year. Not all of these types of limits are individually binding in that a rate limit alone might be easily bypassed by raising assessments, or an assessment limit alone might be circumvented by raising the property tax rate. That is why the difference is made between relatively "non-binding" and potentially binding property tax limits. As per Mullins and Wallin (2005),[21] potentially binding limits are those in which there is either a levy limit or some combination of rate and assessment limits. Since general revenue and spending limits create caps on revenue and/or spending growth, they are considered potentially binding.

Following the above presented logic, this research employed two variables to measure fiscal authority of a local government – functional home rule (HR_func) and TELs (TELs). TELs variable was created as a result of developed classification of the 50 U.S. states by the level of their TELs restrictiveness - i.e. potentially binding and relatively "non-binding" TELs. More details on the classification are provided in the *Methodology* section of this document.

### 7. Form of Government

Terry Clark and Lorna Ferguson (1983) in their study of the U.S. cities fiscal conditions and political processes admit that, even though accounting for interest groups pressures or voter preferences, it is the elected officials who make most of fiscal decisions and thus, largely affect the selection of city policy choices. The discussion of the importance of

[21] Source: Mullins, D.R., and B.A. Wallin. 2005. Tax and Expenditure Limitations. *Public Budgeting and Finance* 24 (4), 2-15.

government type and leadership features for innovative policy-making is found in public administration literature.

Almost all U.S. cities are established by state charter as either mayor-council or council-manager cities. The logic of mayor-council form government is taken from the state and national model of separation of powers, checks and balances, and designed friction between an elected executive - the mayor - and an elected city council. The mayor-council form includes an elected mayor who exercises the administrative authority of the city and heads up its executive functions. The logic of council-manager form city assumes that policy or law is made by an elected group and carried out by either a professional manager appointed by the elected body (the city council) or by one of the members of the elected body. This structure is implied to enhance the potential for agreement among elected officials as well as efficiency in policy implementation or management.

Form of government gains particular attention in Clarke and Gaile's (1998) research indicating for instance ,that "new policy strategies...appear to be associated with ... local contextual features" (p.97). According to the authors, form of government leadership proves to be particularly important in distinguishing cities' entrepreneurial or innovative policy choices. However, related empirical inquiries demonstrate certain controversy. For example, Elkins (1995) finds that mayor-council form of government favors entrepreneurial strategies and innovations to considerably higher extent than council-manager form. Concurrently, Poister and Streib's (1999) review of the inconsistent use of performance measurement among local governments indicates that such innovative policy decision as performance measurement implementation is more often made in the cities with council-manager form of government. While exploring how and to which extent performance measures are used in contemporary municipal government (based on a survey of US cities with populations of 25,000 and over)

Poister and Streib's (1999) find that the motivation to use PM systems in the cities is locally generated, stemming from a desire to make better decisions and to maintain accountability to citizens and local elected officials, rather than from the need to meet state and federal reporting requirements. The main intended audiences of these systems are mayors, city managers, other CAOs, department heads, professional staff, and council members rather than citizen groups or state and federal agencies. The authors indicate that city managers - who have more direct concern with managing programs - are much more actively involved with PM system implementation and primary responsibility for managing and maintaining these systems is located in the budget or the city manager's office. Mayors and city council members tend to function in more of an oversight role.

In their recent study, Krebs and Pelissero (2009) take this argument further by examining the effect of cities' government forms and existing institutional arrangements on local policy initiatives, especially those related the reinventing government, i.e. initiatives concerned with application of innovative solutions to public policy issues, especially in the field of government administration. Their main argument is that, while there is an increased presence of professional administrators in local government (e.g. a trend toward the use of chief administrative officers (CAOs) in mayor-council systems (Frederickson and Johnson, 2001) and managers are indeed active in city policy making (Nalbandian 1999), the incentives for managers to introduce new policy initiatives are conditioned by the institutional features of city government (Clingermayer and Feiock, 2001). This 'conditioning' is presented in a way that in cities where executive power is held by mayors urban administrators and managers would have less "policy latitude", and will be less inclined to initiate policy. Managers in cities with mayor-council form of government face a more restricted policy environment than managers in council-manager cities, since in the former elected officials are relatively strong,

and urban managers are relatively weak. Additionally, the strict separation of power between legislative and executive officials in mayor-council cities produces greater policy conflict and a "gridlock" for new policy initiatives.

In cities with council-manager form of government urban administrators and managers have more "policy latitude," and thus, they are most likely to initiate new policies, especially those related the reinventing government. At the same time, Krebs and Pelissero (2009) recognize that there are many examples of high-profile mayors taking the lead in reinventing government initiatives – e.g. Mayor Daley in Chicago, Mayor Norquist in Milwaukee, Mayor Giuliani in New York, and others. They conclude that it is not simply the presence of a mayor but his relative power and profile that are important for new policy propositions.

The described above inconsistency in research findings on the relationship between the form of city government and innovative policy proposals may be explained by changing structural characteristics of American cities. For decades, these two legal-statutory categories have been used by researchers as dichotomous variables in descriptions of city government forms. In 2001, George Frederickson and Gary Johnson first published their study on "the Adapted American City"[22] demonstrating that the mayor-council and council-manager categories, although legally based, mask a variety of important characteristics of U.S. city government; that the structures of U.S. cities are dynamic; and that cities tend to change their structures incrementally. Over time, cities with mayor-council statutory platforms incrementally adapt many of the characteristics of council-manager form cities to improve their management and productivity capabilities. Similarly, cities with council-manager statutory platforms adopt features of mayor-council form cities to increase their political responsiveness, leadership, and accounting capabilities. As each of the two legal forms of

[22] This study was later expended and published as a book: Frederickson, H. George, Gary Johnson, and Curtis Wood. 2004. The adapted city: Institutional dynamics and structural change. Armonk, NY: M. E. Sharpe.

cities adopts primary features of the other, these cities create a third form of the U.S. city - the adapted city. Two additional categories of adapted cities – adapted political and adapted administrative form - were developed by Frederickson and Johnson (2001) to further differentiate among the large number of cities in the adapted city type.

The main characteristics of major five identified forms of city government as per Frederickson and Johnson (2001) are presented below.

The classic characteristics of *mayor-council* type cities start with a directly elected mayor, responsible for the executive functioning of the city. The position of mayor is often full-time and paid. The mayor is more likely to have veto power and appointing power, including both council committee assignments and administrative positions. The council is elected by district or at-large. Budgets are initiated by the mayor, but most be approved by council. Mayor-council cities tended to be older, larger, more nearly at the center of metropolitan areas, and more heterogeneous and have greater social and economic problems than council-manager form cities.

The classic *council-manager* form cities include a small council, usually either five or seven members elected at large or by district, who serve part-time. One among them may be chosen by council members to carry the mayor's title, which merely means presiding at council meetings. Together, they hire a professional city manager who appoints department heads and initiates the budget.

*Adapted cities* have a chief administrative officer, an approximately even mix of council members elected at large and by district, and a mayor who may serve either full- or part-time.

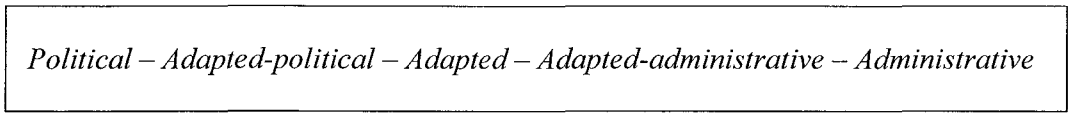
*Adapted political* city exhibits many of the structural characteristics of the pure political form with several modifications, including the majority of council members elected

by district as opposed to all the members of the council elected by district. Also, this form will have a chief administrative officer in contrast to the pure political form that has no chief administrative officer.

The *adapted administrative* city form closely resembles the pure administrative form, except the mayor is likely to serve on the council, although he or she may be directly elected and not necessarily be selected by the council. Most of the city council will be elected at large, whereas in the pure administrative form, all members of the council are elected at large. The adapted administrative city may have a staff member who works on council business, whereas the pure administrative city has no staff devoted to council business.

The above discussed controversy in empirical research on the favorability of different forms of government to city innovation (Elkins, 1995; Nalbandian 1999; Poister and Streib 1999; and Krebs and Pelissero 2009) necessitates a more refined consideration of government types in the related analysis. In order to provide a clearer answer to the question on what government types are more supportive of city policy innovations, this study chose to examine the effects of the form of government on the relationship between cities' fiscal health and their scope of performance measurement innovation based on Frederickson, Johnson and Wood's (2004) classification of U.S. city government types. Therefore, every city in the sample of 140 U.S. localities was classified on the basis of five major forms of government identified by Frederickson et al. (2004) - political (or classical mayor-council), adapted-political, adapted, adapted-administrative, and administrative (or classical council-manager). These five forms of government were then placed on the below delineated continuum (from classical mayor-council to classical council-manager types) and assigned a score, the methodological explanations for which are provided in the *Methods* section of this document:

Figure 1. Form of Government Continuum




This literature demonstrates that form of city government proves to be particularly important in distinguishing cities' entrepreneurial or innovative policy choices. While the argument exists that mayor-council form of government favors entrepreneurial strategies and innovations to considerably higher extent than council-manager form (Elkins, 1995), Poister and Streib (1999) find that the motivation to introduce PM systems in the medium-size cities is locally generated, stems from a desire to make better decisions and maintain accountability, and is characterized by a much more active involvement of city managers and administrators, who have more direct concern with managing public programs. Along this vain, Krebs and Pelissero (2009) emphasize increased importance of professional administrators for policy initiation and implementation in local government. The authors affirm that in cities where executive power is held by mayors (i.e. cities with mayor-council form of government) urban administrators have less "policy latitude", and thus are less inclined to introduce policy innovations than administrators in cities with council-manager form of government. In line with the existing arguments of Nalbandian (1999), Poister and Streib (1999), and Krebs and Pelissero (2009), one can assume that administrative cities with pure administrative form of government (Frederickson et al. 2001) - where city managers and administrators have more "latitude" for new policy proposals - will innovate more.

## 7. Summary

The literature review demonstrates that examining the effects of variability in local government fiscal health on the scope of its implemented innovation is important for a few reasons. First of all, there is no distinct integration between the body of research on local government fiscal health and innovation. The existing public finance and innovation literature present sharply divided perspectives on the importance of financial resources for implementing innovative practices. The question on whether or not fiscally stressed cities innovate more than fiscally healthy ones remains unanswered. Second, there is a necessity for a study of productivity improvement in municipal context, and an empirical inquiry on performance measurement as innovative tool for evaluating productivity improvement in the U.S. city governments could be a step forward in satisfying this need (Poister and Streib, 1989).

Furthermore, studies using the existing methods of fiscal health evaluation are not universally applicable across the U.S. cities. Imposing a rigid fiscal health measures on cities, as if they were all alike in their economic base and consumer needs, they ignore variation in cities economic structure, their service needs as well as the diversity of their institutional and leadership characteristics. In order to better understand the role of government institutional arrangements in city innovation processes, it is important to examine the effect of local government institutional factors, such as access to general taxes (sales, income, and property), home rule status, and level of binding by TELs, on the relationship between local government fiscal health (which is a measure of a government's ability to meet its financial and service obligations) and its degree of innovation. Thus, developing a measure of fiscal health that combines the research and analytic strengths of academic and policy perspectives with the contextual and nuanced understanding of cities' fiscal structures and its environment is

instrumental to bring municipal policy debate to a different, more realistic, and more fruitful level. Policy diffusion research additionally emphasizes the importance of wealth (or resource availability), size, and urbanization level of an innovative entity for the scope of innovation in state and/or county governments. Testing the importance of these factors for the relationship between fiscal health and scope of innovation in municipal context will advance our knowledge about the specifics of innovation adoption at different government levels.

Finally, investigating the relationship between cities' fiscal health and their degree of innovation will contribute to our understanding of city government decision-making process under conditions of fiscal stress (which is regarded here as opposite to fiscal health). It will also help to learn more about cities' incentives to innovate or to hold back their initiatives. As a result, a more informed recommendations on city fiscal and innovation policies will be provided to government officials.

# III. METHODS

## A. Model

This research sets to examine how fiscal health of the U.S. cities (with the number of population between 25,000 and 200,000) affects their governments' decisions to adopt performance measurement as innovation. The effect of city government institutional arrangements - such as fiscal (TELs) and functional home rule status, - as well as city size, slack resource availability, and type of leadership on the relationship between fiscal health and scope of innovation is analyzed for a number of randomly selected cities in eight U.S. states that vary by their fiscal authority level. This study suggests the model that follows the provided below groups of research questions, propositions and hypotheses.

### 1. Research questions

The above literature review suggests the following research questions:

1. Are fiscally stressed (which is opposite to fiscally healthy) city governments more likely to engage in innovation than fiscally healthy city governments, i.e. does poor fiscal health lead to innovation?
2. Does the innovation behavior of fiscally healthy city governments differ from that of fiscally healthy ones? Is the scope of implemented innovations likely to vary across these governments?
3. Does slack resource availability in a government have any effect on the scope of city implemented innovation?
4. Does the form of city government define the relationship between city fiscal health and the scope of implemented innovation?

5. Does city government size affect the relationship between the city fiscal health and its degree of innovation?
6. What is the effect of intergovernmental institutional arrangements on the relationship between fiscal health and innovation?
    a) Do city governments with more fiscal autonomy tend to innovate more than cities with less autonomy?
    b) Do city governments with home rule status tend to innovate more than non-home rule city governments?

## 2. Propositions and hypotheses

Based on the existing bodies of public administration, public finance, economics, policy diffusion, performance measurement, and innovation literature this research suggests the following groups of propositions and hypothesis.

**Proposition 1:** In addition to the existing view that innovation requires upfront and continuous investment (O'Sullivan, 2005; Rogers, 2003; Schumpeter, 1996), the importance of financial resource availability for such innovation as performance management system implementation is listed among the major facilitating factors for performance measurement advancement in local governments (Berman and Wang, 2000; Jordan and Hackbart, 1999) Thus, fiscally healthy U.S. cities will innovate more.

**Proposition 2:** This literature demonstrates that form of city government proves to be particularly important in distinguishing cities' entrepreneurial or innovative policy choices. While earlier studies employed dichotomous classification of city government form and indicated that that mayor-council form of government favors entrepreneurial strategies and innovations to considerably higher extent than council-manager form (Clarke and Gaile, 1998;

Elkins, 1995), the more recent studies offer a more extensive classification of the city government form (Frederickson's et al. (2001) five categories)[23] and emphasize the increased importance of professional administrators for policy initiation and implementation in local government (Krebs and Pelissero 2009, Nalbandian 1999, Poister and Streib 1999). These studies also claim that in cities where executive power is held by mayors (i.e. cities with mayor-council form of government) urban administrators have less "policy latitude", and thus are less inclined to introduce policy innovations than administrators in cities with council-manager form of government. Based on these arguments, the assumption of this research is that administrative cities with pure administrative form of government (Frederickson et al. 2001) - where city managers and administrators have more "latitude" for new policy proposals - will innovate more.

**Proposition 3:** The public administration literature suggests the importance of city government slack resources for the scope of innovation implementation (March and Simon, 1958), Cyert and Mart (1963). A strong relationship between expenditure and innovation in public agencies was found by Mohr (1969) when using the size of agency budget as a measure of slack. As a result, U.S. cities with higher level of slack resources might demonstrate higher degrees of innovation implementation than those without such resources.

**Proposition 4:** Walker (1969) states that demographic factor such as population size of an adopting entity is crucial for the scope of innovation implementation. The larger and the wealthier the adopter is, the higher it will score on innovation, as "the great cosmopolitan centers in the country, the places where most of the society's creative resources are concentrated, would be the most adaptive ... to change, and thus the first to adopt new

[23] Frederickson et al. (2001) offered new 5-category classification of U.S. city government types that can be described as continuum: political (most closely corresponds to earlier used mayor-council category) - adapted-political - adapted - adapted-administrative - administrative (most closely corresponds to earlier used council-manager category)

programs." Thus, U.S. cities with larger government size can be expected to demonstrate higher degrees of innovation than cities with smaller governments.

**Proposition 5:** Higher level of local government autonomy implies greater level of city government discretion in policy and strategic decision-making. Therefore, more local autonomy translates into the improved ability of a government to implement innovative practices. Consequently, U.S. cities with higher levels of fiscal autonomy, lower level of TELs rate, and home rule cities are expected to demonstrate higher degrees of innovation implementation.

These propositions lead to the following hypothesis of the study:

**Hypothesis**: *Larger-size fiscally healthy U.S. cities with 'administrative form of government' (Frederickson's et al. classification), higher degree of fiscal autonomy and higher level of slack resources will innovate more.*

### 3. Model description

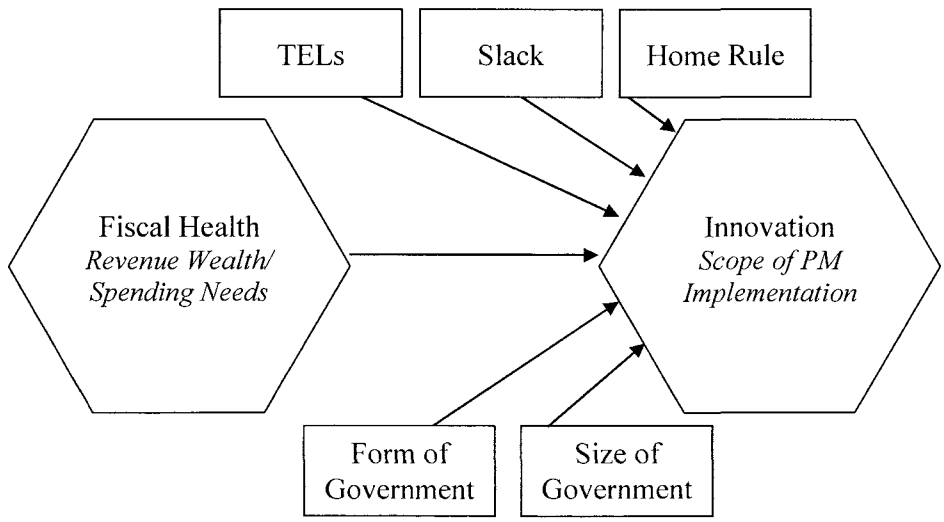
Generally, fiscal health is defined as the ability of a government to meet its financial and service obligations in the context of its governmental structure. Combining the research and analytic strengths of the reviewed academic and policy literature with the contextual understanding of cities' fiscal environments, this study introduces a concept of fiscal health that focuses exclusively on such elements of city's fiscal structure as revenue wealth and its spending needs. The arguments in public administration and finance, economic, innovation, performance measurement, and policy diffusion research justify this choice, especially from the point of view of the importance the cities' revenue base and service requirements for their innovative policy implementation. Remaining in the tradition of public administration (Brown 1993; Groves, Valente, and Shulman 1981; Aronson and King, 1978) and economic (Ladd

and Yinger 1989; Bahl 1984; ACIR 1971, 1979) literature this study focuses on a city government's revenue wealth and expenditure needs as primary indicators of its fiscal health condition.

Institutional and structural features of city governments - e.g. local fiscal autonomy level, form and size of government - are treated as separate variables, the effect of which for the relationship between fiscal health and innovation in city government is tested. Similarly, the importance of government fiscal slack for the focal relation of this study is separately analyzed given its justified importance for the degree of innovation implementation presented by Wolman (1986), Mohr (1969), Cyert and March (1963), and March and Simon (1958).

Visual presentation of the developed model of the study is provided below.

Figure 2. Relationship between City Fiscal Health and Innovation Model



## B. Sample

### 1. Data Selection

aIt is noticeable that relatively little attention has been paid by the public administration, public finance and political science literature to the study of middle-size American cities. Larger and central cities, or their neighborhoods, have received much more attention and analysis (Ashton and Newman, 2004; Ladd and Yinger, 1989; Clark and Ferguson, 1983; Hawell and Stamm, 1979). Another fact is that many findings based on central cities' analyses have been applied to middle size cities without regard for their institutional, fiscal, economic, demographic and political differences. Nevertheless, the studies that have been conducted on U.S. middle size cities indicate the importance for better understanding of their environments. Daniel Elazar, for example, indicated that at the time the medium-sized city were the new centers of urban growth in the United States. Forty percent of all inhabitants of urban areas and one-third of all citizens lived in these medium-sized cities. Another fifteen percent (15%) live in cities approaching that size. These medium-sized cities were the largest single class of cities in the United States and had been for fifty years at the time of the writing of this book (1986). "The medium-sized civil community has been substantially neglected as a focus of study. This neglect is all the more a problem in light of the statistical findings on optimal size city, which suggests that cities in this size range achieve optimum performance on most measures." (Elazar, 2002:3)

Civil communities in this range "are large enough to be functional, given the demands for services places upon them today" (Elazar 1970:437). While these communities are small enough that the specialist dealt directly with the public and cannot hide behind a bureaucracy, their governmental institutions are large enough to have specialists in management. These features are particularly important for measurement innovation policy implementation

(performance measurement system in the case of this study), since public administrators' proficiency and transparency of their function are recognized as key factors by the public administration and innovation policy diffusion literature (Tobert, Mossberger and McNeal 2008; De Lancer Julnes and Holzer 2001).

Another study on economic development in cities (Pagano and Bowman 1995) looked at projects in ten medium sized US cities with populations between 70,000 and 150,000. The authors chose the city size being convinced that it "would provide a set of candidate cities for which we could sort out and measure fairly precisely the impacts of economic development projects but without the confounding effects of large-scale public or private investment projects" (1995:4).

Other researchers have written comprehensive publications on middle-size cities such as Bowers and Rich's *Governing Middle-Sized Cities* (2000) and Johnson and Veach's *The Middle-Size Cities of Illinois* (1980). Bowers and Rich determined that there are differences in middle-sized and larger cities that affect type of city leadership, particularly, mayoral. "Mayors of middle-sized cities are often a different breed of politician, with fewer resources, yet in a better strategic position to lead than their big-city counterparts" (Bowers 2000:2). They conclude that the size of the middle-sized city allows for opportunities for quality mayoral leadership that is absent in large cities. The relationship between the mayor and the people in the community relationship is more sustained and intimate due to the ability of a mayor to interact with a larger group of people on a regular basis. The Sangamon State University (now the University of Illinois at Springfield) had a Center for Middle-Size Cities devoted entirely to this "segment of American society which has received relatively little scholarly attention." (Johnson 1980). The lack of substantial research on fiscal, institutional, socioeconomic and political environments in middle size cities represents a major concern and

serves as the basis for the study sample selection for this research. Moreover, as the existing scholarly research demonstrates, smaller and middle-size cities represent an adequate study unit for examining innovation policy implementation while accounting for cities' fiscal, economic, institutional, and political environments.

This research for this project used two main databases: City Government Finances Data from the U.S. Census Bureau for Governments (fiscal years 1995, 2000, 2005), and Performance Measurement data from the Government Financial Officers Association's (GFOA) 2004 National Survey on Performance Measurement Implementation.

While city financial data were reported by local governments to the U.S. Census Bureau on annual basis, the GFOA national survey on PM implementation (which is taken as a proxy for analysis of city government innovation, see *Conceptual Framework* and *Measurement* sections for the choice argumentation) was conducted by contacting all cities (with the population above 25,000) and counties (with the population over 75,000) in the U.S. with a purposefully developed questionnaire on performance measurement use in these jurisdictions. About 80% of the respondents (among them 1169 cities) provided the requested information on performance measurement use. 417 – or 36% – of the surveyed cities responded positively to the question whether they use performance measures. To ensure validity of the data, follow-up phone calls were conducted with respondents who indicated the use of wide range of measures. Respondents were asked for specific examples of indicators or technology used to gather and organize the performance data.

Type of government data for the cities were collected using Frederickson et al. (2004) categories of classification (see Appendix I for category examples) as a basis for differentiating between five major forms of the U.S. city government. 140 city profiles were analyzed using the localities official web sites, e-mail and phone inquiries to determine which

out of five Frederickson et al. (2004) proposed categories describes best the form of government in each individual city. "Form of Government Classification" table in the Appendix J to this document provides detailed description of the sources of city data collection and indicates form of government category for each individual city.

All five forms of government were identified in the study sample. "Types of Government Summary" Table (III) in *Measuring Form of Government* section of this document provides a summary of the analysis indicating the number and the percentage of each category of city government form in the sample of 140 U.S. cities.

Additional demographic, economic, and financial data were taken from Comprehensive Annual Financial Reports (CAFRs) of the localities (cities, townships, villages) that submitted their fiscal year CAFRs to the GFOA's Certificate of Achievement for Excellence in Financial Reporting Award during the 10-year period (from 1995 to 2005); from the U.S. Census Bureau County and City Data Books (1994 and 2007) that include data for all U.S. states, counties, and cities with a population of 25,000 or more; the U.S. Census Bureau Data for Governments and American Community Survey (2005); Uniform Crime Reports from the Bureau of Justice Statistics;[24] recent city CAFRs that contained financial data for the last 5-10-year period, and other statutory, financial and regulatory documents that were obtained from the governments' official web pages or via direct contact with cities' financial officers.

First, in order to assure the representativeness of the study sample, eight U.S. states - Colorado, Georgia, Illinois, North Carolina, Ohio, Oregon, Texas and Washington - were selected based on state location (north-east, north-west, south-east, south-west), the number of

[24] Bureau of Justice Statistics webpage http://www.ojp.usdoj.gov/bjs/

cities with population between 25,000 and 200,000 as of the year 2005 within these states,[25] and the degree of local fiscal autonomy granted by state governments to city authorities in terms of their access to property, sales and/or income tax bases, and level of existing tax and expenditure limitations. The smallest number of PM-use medium-size cities in the selected states is ≥ 10 (as per the GFOA's 2004 National Survey on Performance Measurement). Second, a random sample of 140 cities was selected from the pool of cities in the above listed eight states including jurisdictions that used performance measurement and those that did not. Total number of the PM-use cities in the selected sample is 66 or 47% of the total.

## C. Measurement

### 1. Measure of fiscal health

The public administration and economic literature has recognized that city governments are not similar in their economic and institutional structures (Clark and Ferguson, 1983; Ladd and Yinger, 1989; Hendrick, 2004). Neither have they shared common social experiences, and economic and political needs. The U.S. cities are very diverse, and thus, their fiscal health evaluation cannot be offered by a comparison of one city to another or to a 'group norm'. This can be done by analyzing the constraints and opportunities that uniquely affect the city's revenue wealth and expenditure requirements.

Fiscal structure of a city depends on its environment, which reflects not only the constrained choices confronting city policymakers based on the city's institutional framework or on its underlying economic base. It also "mirrors the locally constrained priorities of designing an 'appropriate' revenue structure that reflect the values and desires of the city's residents" (Pagano et al., 2007). Aiming to reflect environmental distinctiveness of cities'

[25] 2005 was taken as the closest year of population reporting by the U.S. Census Bureau to the year of the year of the GFOA's National Survey on PM Implementation completion (2004).

fiscal structures this study proposes a measure of fiscal health that accounts for the uniqueness of a city's revenue capacity and its service needs.

### a. Fiscal health index

Generally, fiscal health is defined as the ability of a government to meet its financial and service obligations in the context of its governmental structure and environment (Hendrick, 2004). Designing a measure of fiscal health that accounts for multidimensionality of city fiscal structure is a challenging task. While the above referenced four systems of city fiscal health evaluation[26] tend to include a variety of key features of local fiscal structure in order to provide the most realistic picture of fiscal health of a government, they are not evenly helpful to city governments across the country. These approaches neither account for variation in the cities' access to revenue sources, nor do they reflect their changing economic base.

That is why, combining the research and analytic strengths of an academic and policy perspectives with the contextual understanding of cities' fiscal environments, and aiming to establish a measure of fiscal health that would allow for comparing fiscal health condition of cities in different U.S. states with varying fiscal, economic and institutional structures, this study introduces an index of fiscal health that focuses exclusively on such elements of city's fiscal structure as revenue wealth and its spending needs. Following Hendrick (2004), the measures of own-source revenue wealth of a government and its spending needs are calculated separately and then combined into a single index of fiscal health. Revenue wealth is calculated using income per capita (**Inc/Cap**), EAV per square mile (**EAVsqM**) to measure property tax capacity, and retail sales per capita (**SalePC**) to measure sales tax revenue base

[26] Clark and Ferguson's (1983) City Wealth and Functional Performance Indices, the Representative Tax System (RTS) (ACIR, 1962), the Financial Trend Monitoring System (FTMS) (Groves et al., 2003), and the Brown's (1993) Ten Point Test of Financial.

for those cities that have sales tax. Income per capita is used to measure income tax base in the states that have income tax (e.g. OH), and to measure 'other revenue' capacity (following Berne and Schramm, 1986; Rafuse and Marks, 1991). The revenue wealth indicator is created by converting the three component variables into *z* values and summing the values.

$$\textit{Revenue Wealth} = z\ \textit{Inc/Cap} + z\ \textit{EAVsqM} + z\ \textit{SalePC} \qquad (5)$$

The spending needs measure contains three variables: reverse median age of housing **(rMedAgeH),** weighted (percentage residential) crime rate per capita (**Crime**), and reverse population density (**rDens**), i.e. population/square miles. Similar to the wealth index, the spending need indicator is created by converting the component variables into *z* values and then summing the values.

$$\textit{Spending Needs} = z\ \textbf{rMedAgeH} + z\ \textit{Crime} + z\ \textit{rDens} \qquad (6)$$

The index of fiscal health for every individual city is computed for three different time periods - fiscal years 1995, 2000 and 2005 - by subtracting spending needs from revenue wealth indicators, and then analyzed in terms of its effect on the scope of innovation implementation by city government. Summary statistic of all composite variables of the fiscal health index is presented in Appendix D to this document.

$$\textit{Fiscal Health} = \textit{Revenue Wealth} - \textit{Spending Needs} \qquad (7)$$

## 2. Measure of slack resources

Fiscal slack represents a government's ability to absorb financial shocks over a practical period of time (Cyert and March 1963), i.e. to meet government's budgetary obligations over a few years while focusing on features that facilitate or hinder its adaptation to fiscal shocks or economic downturns. In other words, fiscal slack is a structural feature that increases a government's financial flexibility in managing fiscal uncertainty, such as a diversified revenue structure or a higher level of discretionary spending in the budget. In its budgetary terms, fiscal slack can be literally represented as surplus resources, such as high fund balances.

Following Mohr (1969), Cyert and March(1963), March and Simon (1958), whose findings indicate that a strong relationship exists between fiscal slack (defined in its budgetary terms) and innovation in public agencies, this study defines fiscal slack as excess of financial resources in a government available over the required costs of its service (Cyert and March, 1963; Wolman, 1986). Hendrick (2004) in her turn demonstrates that fiscal health dimensions may vary in nonlinear ways. It is not guaranteed, for instance, that a government experiencing high degree of fiscal stress (low revenue wealth and high spending needs) is more likely to have low slack and high future obligations. Similarly, there is no certainty that it will be easier for a government with a more stable financial condition to have adequate slack resources, maintain a solvent budget, and to meet its obligations. This demonstrates that the complexity and indirect nature of the relationships between fiscal health dimensions can hardly allow for combining all these measures in one, comprehensive indicator of fiscal health. For this reason, the current study considers fiscal slack as a separate variable.

The proposed here measure of fiscal slack includes two main indicators of surplus resources in a government - percentage unreserved and reserved fund balance as a primary source of fiscal slack for governments.

Unreserved fund balance is a part of total fund balance that is unencumbered at the end of the fiscal year after all spending is made. It represents a surplus fund that governments use to manage cash flow throughout the year or to balance the budget during times of fiscal scrutiny (GAAP, 1999; Bahl 1984).[27] The unreserved fund balance variable is calculated as a percentage of total expenditures.

Reserved fund balance either means that "the resources are in a form that cannot be appropriated and spent (such as inventory) or that the resources are legally limited to being used for a particular purpose... Governments also tend to report the nonexpendable portion of their permanent funds - the resources that can be invested but not spent - as reserved fund balance" (GASB, 2006).[28] Cities often set aside or 'reserve' funds for certain purposes (e.g. establishing a pool of resources that can be used for outright purchase of a fixed asset (instead of borrowing), or for establishing a reserve amount to increase city's financial rating). However, cities can always decide to manage the amount of funds in the reserved accounts differently - especially during the times of fiscal crises, - as generally, no legislative constraints prevent cities from releasing their reserved funds when a situation necessitates. Thus, the proposed here measure of fiscal slack includes percentage of reserved fund balance.

---

[27] Governmental funds report the difference between their assets and liabilities as fund balance. Under Generally Accepted Accounting Principles (GAAP) fund balance is divided into reserved and unreserved portions. The reserved fund balance represents the portion of fund balance that is not available for appropriation to the next budget. The unreserved fund balance can be further divided into designated and undesignated portions with the designated fund balance representing intended uses of fund balance. Designating the use of fund balance is a powerful tool in careful fiscal planning that allows governments to manage their future fiscal health. Unreserved/undesignated fund balance is fully available for appropriation and must be appropriated to the next budget following the completion of an independent financial audit of those funds.

[28] Please see http://www.gasb.org/newsletter/fund_balance_may2006.html for more details.

The measure of fiscal slack is created by converting the two variables into *z* score and summing the values.

### 3. Scope of innovation measure

The innovation study is comparatively new, and today no established definition or general measure of innovation exists. Following Rogers and Kim (1995), this study defines innovation as a practice of PM system implementation perceived as new or different by the adopting city government - regardless of whether or not this practice is objectively new since its first use or discovery - which results *in a new value creation* for the implementing city. This research also recognizes that two fundamentally different approaches for innovation measurement have been introduced by prior research: the organizational level and the political level. Innovation measurement at the organizational level relates to individual and company level assessments and includes survey inquiries, internal benchmarking and balanced scorecards analysis (Davila et al., 2006; Fagerberg, 2004; Miles, 2000). Measured values vary widely between organizations, covering for example, new product revenue, R&D spending, time to market, customer and employee perception and satisfaction, number of patents, etc. (Rogers, 1983; Nelson et al., 1977).

Political level of innovation measurement is focused more on a country or region's competitive advantage through innovation. In this context, organizational capabilities can be evaluated through various evaluation frameworks, such as those of the European Foundation for Quality Management. The OECD Oslo Manual (1995) suggests standard guidelines on measuring technological product and process innovation, while the new Oslo Manual (2005) takes a wider perspective to innovation, and includes marketing and organizational innovation.

Since the unit of analysis of this research is city government, organizational level of innovation measurement is used. It is based on a survey and internal scorecard analysis of government innovation, or performance measurement implementation in case of this research.

Within the last 15 years, numerous cities in the U.S. have embraced performance measurement for a greater range of services aiming to improve performance management. They represent diverse jurisdictions with varying economic capacity, size, institutional structures and leadership characteristics. It is not surprising that the intensity of performance measurement implementation also varies from government to government. While this fact is well documented in the traditional performance measurement research that has focused on the nature and use of performance measures (Sanger, 2008), the studies that offer evaluation of the quality of performance measures implementation from policy innovation perspective are not numerous.

Performance measurement systems were usually graded by traditional performance measurement research based on a number of factors, such as the timing of adoption, the availability of clear, measurable goals, the extent to which performance measures relate to outcome rather than output measures, the measures' impact on decisions, the testing and benchmarking of performance measurement information, and the use of customer surveys (Ittner and Lacker, 1998).

At the same time, policy innovation literature suggests that the timing of adoption represents only one dimension of innovation (Berry and Berry 1990; Gray 1973; Walker 1969). According to Tobert, Mossberger and McNeal (2008), "the quality of the policies that are developed - their scope, sophistication, and whether adopters continue to keep pace with state-of--the-art developments in the field - are also important dimensions of innovation." Understanding the scope of implementation can offer a more accurate portrayal of innovation

(Clark 1985; De Lancer Julnes and Holzer 2001), since the intensity of innovation implementation varies over time (Boehmke and Witmer 2004).

Recent policy innovation research puts particular emphasis on the importance of government institutional capacity[29] for continued innovation. Tobert, Mossberger and McNeal (2008) in their study on institutions, policy innovation and e-government found that establishment of new institutions for e-government facilitates innovation. Since performance measurement entails administrative structures, professional expertise, coordination, and continued valuation, adoption of this type of innovation is also highly determined by the presence of the specialized administrative arrangement, i.e. institutional capacity. Essentially, those governments that have assigned responsible executives for PM system implementation, created special report system (other than budget document or strategic plan) or more institutionalized PM information management (e.g. score cards) have higher degrees of innovation adoption.

The policy innovation literature also suggests that efficiency concerns may promote broader innovation implementation. For instance, effective performance management implementation may require governments to collaborate across organizational boundaries in order to present information and service delivery in comprehensible way rather than fragmented across departments (Fountain, 2001; Peters 2001). In this case, sharing performance measurement information across departments, agencies and governments indicates higher degree of performance measurement system implementation.

[29] In the form of new bureaucratic agencies, state legislative committees, and formal/informal rules and procedures (Tobert, Mossberger and McNeal, 2008).

De Lancer Julnes and Holzer (2001) in their turn argue that innovative policy adoption is driven more heavily by factors from rational and technocratic theory[30] than by political and cultural considerations. The findings of their study show that adoption of performance measures as government innovation is significantly and positively predicted by internal requirements, resources, external requirements, goal orientation, and access to information (rational/technocratic factors), and by internal interest groups (political/cultural factor).

### a. Factor analysis

Building upon theoretical assumptions from performance evaluation and policy innovation research, this study used factor analysis technique for evaluating the scope of performance measurement use in a city government based on the answers provided to the national survey conducted by Government Financial Officers Association (GFOA) in 2004 on performance measurement use in the U.S. local governments (cities and counties). Although 47% of sample cities (or 66 out of 140) use performance measurement, the scope of their PM use varies greatly.

In order to better understand the relationship between different survey items, SPSS based factor analysis (also known as principal components analysis) was applied to the 2004 GFOA PM System Use survey responses to remove potential redundancy in the data. The variance in the answers to 60 survey questions was condensed to 15 distinct factors reflecting city government performed functions. 10 of these factors with positive loading resulted in a set of variables presented in Table I below.[31] A scale for evaluating the scope of performance measurement use in a city government was developed based on this analysis. A score was

[30] The categories of factors include external requirements, internal requirements, resources, information, and goal orientation (De Lancer Julnes and Holzer, 2001).
[31] GFOA Performance Measurement Survey, 2004

assigned to every performed by a city function according to factor loading of the variable describing this function. Individual Index of the Scope of PM Implementation (or Innovation) was calculated for all sample cities by summarizing the scores of different functions a city government performed. The Cronbach's alpha of internal reliability of the proposed composite measure was computed. The value of Cronbach's alpha test 0.87 suggests that the selected set of variables can be combined into a single, one-dimensional scale.

This selection also validates the assumptions of the above discussed theories about the importance of institutional capacities, internal and external requirements, efficiency, goal orientation, and access to information for the scope of PM implementation. The summary of theoretical bases justifying the importance of the above listed survey items/questions for evaluation of the scope of PM-use is represented in Table II below.

**TABLE I**
COMPONENT FACTORS OF THE SCOPE OF INNOVATION MEASURE

| Variable Code | Factor Loading |
|---|---|
| Formal Review | .09 |
| Accountable Executive | .04 |
| Scorecard | .04 |
| LinktoSP | .08 |
| BenchTargets | .13 |
| BenchTime | .15 |
| StandardMeasures | .12 |
| ShareData | .11 |
| Budget Process | .09 |
| BudgetDoc | .16 |

**TABLE II**
SCOPE OF INNOVATION MEASURE: THEORETICAL BASES

| Question | Variable | Theoretical Basis |
|---|---|---|
| 1. Do you have an established review-process of the performance measurement data? | Formal Review | Internal requirements, access to information (De Lancer Julnes & Holzer); Institutional capacities: administrative structures, continuous evaluation (Tobert, Mossberger & McNeal) |
| 2.Are managers/departments held accountable for results to executive? | Accountable Executive | Internal requirements, internal (formal) interest groups (De Lancer Julnes & Holzer); Institutional capacities (Tolbert et al.) |
| 3.Do you use scorecards in measuring your performance? | Scorecard | Efficiency (Fountain, Peters); Institutional capacities: administrative structures, professional expertise (Tolbert et al.) |
| 4.Do you use bench targets in performance measurement? | Bench Targets | Goal orientation, internal requirements (De Lancer Julnes & Holzer) |
| 5.Do you use bench-timing in performance measurement? | Bench Time | Internal requirements, goal orientation (De Lancer Julnes & Holzer) |
| 6.Do you employ standard performance measures in the process? | Standard Measures | Internal requirements, access to information (De Lancer Julnes & Holzer); Institutional capacity: professional expertise, coordination (Tolbert et. al) |
| 7.Do you share performance data with other jurisdictions? | Share Data | Efficiency (Fountain, Peters); access to information (De Lancer Julnes & Holzer); Institutional capacities: professional expertise (Tolbert et al.) |
| 8.Do you use performance measurement data in budgeting process? | Budget Process | Internal requirements, goal orientation (De Lancer Julnes & Holzer) |
| 9. Are the performance measurement data included into your budget document? | Budget Doc | Internal requirements (De Lancer Julnes & Holzer); Institutional capacities: professional expertise (Tolbert et al.) |
| 10. Do performance measures link to a strategic plan? | LinktoSP | Institutional capacities (Tolbert et al.); Goal orientation (De Lancer Julnes & Holzer); access to information (De Lancer Julnes & Holzer); Efficiency (Fountain, Peters) |

### 4. Fiscal autonomy measure

Public finance literature has recognized that U.S. cities are unique both in their resource bases and fiscal structures (Ladd and Yinger, 1989; Tannenwald, 1998). State governments neither provide identical forms of financial aid to the cities nor require the same set of services. They proscribe access to tax authority, mandate delivery of certain services, provide financial resources based upon state-developed formulas, and establish policies that can intensify competition or enhance cooperation between localities. Essentially, cities are embedded institutionally in the constitutions and statutory laws of the states, and thus, the latter may considerably hinder cities' policy choices unless their governments are granted higher autonomy levels. Therefore, level of local government autonomy - which refers to a locality's functional home rule status, degree of its access to general taxes (i.e. tax on sales, income, and property), and level of binding by tax and expenditure limitations - is a very important institutional factor to account for while examining the relationship between local government fiscal health and its degree of innovation. The degree of discretionary authority available to local government officials is often associated with the concept of home rule, or "municipal independence" as Tocqueville[32] called it.

Local government scholars have long maintained that home rule provisions define the powers of local government (Bollens, 1986; Feiock and Carr, 2001; Miller, 1981). Home rule is "the power of a local government to conduct its own affairs - including specifically the power to determine its own organization, the functions it performs, its taxing and borrowing authority, and the numbers, types, and employment conditions of its personnel" (Advisory Commission on Intergovernmental Relations (ACIR, 1981:1). The area of autonomy that deserve the most attention in examining fiscal health of local governments are fiscal and

[32] De Tocquevilee. 1945. *Democracy in America*. Vol. I, New York: Vintage Books, p. 67.

functional home rule that define taxing and borrowing authority of a government and capture its functional home rule (Carr, 2006; Feiock and Carr, 2001; Mullins and Joyce 1996Miller, 1981; MacManus 1981).

Building on previous research findings and aiming to provide thorough investigation of the effect of local government fiscal power on the relationship between its fiscal health and innovation, this study employs two separate variables to measure city government autonomy - *functional home rule* that reflects functional status of a government, and *fiscal home rule* – which reflects *tax and expenditure limitations (TELs)*, i.e. institutional constraints imposed on local governments to raise taxes and expenditures.

The conceptualization of *functional home rule* is focused on the authority of local government to draft its own charter. If the state grants the status of home rule to a government, then the government will have more autonomy in designing its economic and financial wellbeing, which includes tax and fiscal policy system. For the purpose of this study, the home rule variable (**HR_Funct**) is coded as follows: a score 1 is assigned to the cities with home rule status; and 0 to the non home-rule cities.

**TELs** variable reflects the presented in the literature distinction between potentially binding and relatively "non-binding" TELs (Mullins and Wallin, 2005), based on which this study classified the U.S. states into three groups by the level of restrictiveness of their TELs. The least restrictive group is composed of the states where there are no property or general TELs. This group is assigned a score of 3 corresponding to the higher level of local autonomy. The next group includes those states where a non-binding property tax limit is in place for local governments, and is assigned score 2. All states in the following group have a potentially binding property tax limit in place for local governments (either a levy limit, or a combination tax rate-assessment limit(s). A score of 1 marks this group. The most restrictive states – score

0 – have both a potentially binding property tax limit for local governments and a general revenue or expenditure limit that applies to local governments. These are states where localities face the most significant sets of limits on their local tax/fiscal authority. The City TELs Rating by State Table is provided in the Appendix H.

### 5. Measuring Form of Government

As per the earlier presented assumptions made by policy diffusion and performance management advancement literature, type of city leadership is a critical factor for policy choices made by the government. Consequently, the form of city government is included as a control variable in the model of this study in order to test the effects it may have on the relationship between city fiscal health and its innovativeness.

Earlier studies generally employed mayor-council and council-manager categories in the analyses of the effect of the form of government on implementation of novel governmental policies and practices (Clarke and Gaile, 1998; Elkins, 1995; Poister and Streib 1999). A few of them supported the argument that mayor-council form of government favors entrepreneurial strategies and innovations to considerably higher extent than council-manager form. In 2004, Frederickson Johnson and Wood unveiled that cities tend to incrementally change their government forms, and a variety of important characteristics of U.S. city government is masked under the mayor-council and council-manager categories. The authors offered new 5-category classification of U.S. city government types that can be described as continuum: political (most closely corresponds to earlier used mayor-council category) - adapted-political - adapted - adapted-administrative - administrative (most closely corresponds to earlier used council-manager category). The current research used Frederickson et al. (2004) criteria for city classification as a basis for differentiating between

five major forms of the U.S. city government. 140 city profiles were analyzed using localities' official web pages, e-mail and phone inquiries to determine which out of five proposed categories describes best the form of government in each individual city. "Example of the Criteria Used in 140 City Government s' Classification" table in the Appendix J to this document provides detailed description of the sources of city data collection. Appendix I lists forms of government for 140 American cities.

All five forms of government were identified in the study sample. Table III below provides a summary of the analysis indicating the number and the percentage of each category of city government form in the sample of 140 U.S. cities.

**TABLE III**
TYPES OF GOVERNMENT SUMMARY

| Code | Government Type | N of cities | % |
|---|---|---|---|
| 1 | political | 23 | 16 |
| 2 | adapted-political | 7 | 5 |
| 3 | conciliated (adapted) | 11 | 8 |
| 4 | adapted-administrative | 82 | 59 |
| 5 | administrative | 17 | 12 |
| Total | | 140 | 100 |

As per Frederickson et al. (2004), these forms were placed on a 'form of government continuum' ranging from political (or classical mayor-council), adapted-political, adapted, adapted-administrative, and to administrative (or classical council-manager) form. Based on the existing arguments in the public administration literature, every category was assigned a separate code vis-à-vis its assumed favorability to innovation:

- political form (or classical mayor-council) = 1 (very unfavorable to innovation )

- adapted-political form = 2 (unfavorable)
- conciliated (adapted) form = 3 (medium favorability)
- adapted-administrative form = 4 (more favorable )
- administrative form = 5 (very favorable).

The 5-categoty variable Gov Type was then recoded into four separate dummy variables to distinguish between separate groups of the variable - admindum, adadmindum, adaptdum and adpolitdum.

# IV. ANALYSIS AND DISCUSSION

Almost a century after Schumpeterian definition of economic innovation (Schumpeter, 1934), there is still no sound evidence to suggest that financial resource availability drives organizational innovation or vice versa. The existing public administration, innovation, and economic research presents sharply divided perspectives on the relationship between fiscal health and innovation (see discussion in Chapter II). Given these discrepancies, the current study examined the impact of fiscal health of the U.S. city governments on their degree (or scope) of innovation using the model that encompasses exogeneity of city government environments. This section provides the results of empirical test that examines this relationship.

The study used cross-section analysis of financial and performance measurement data of 140 cities in eight U.S. states. Since, according to the public administration (Wolman, 1986; Pettigrew, 1973; Zaltman, 1973) and the policy innovation literature(Tobert, Mossberger and McNeal, 2008; Berry and Berry 1990; Gray 1973; Walker 1969), it is not the timing of innovation adoption but the quality of the developed policies (i.e. their scope, sophistication, and pertinence) that represents the most important determinant of government innovation, it was reasonable to examine if change in cities fiscal health over five-year time period (from 1995 to 2000) affects the scope of their performance measurement innovation. The choice of 1995-2000 time-span is justified by the fact that fiscal years 1994-1995 marked the beginning of that performance measurement innovation popularity in local governments following Osborne and Gaebler's (1992) *Reinventing Government,* the associated *National Performance Review* (1993), and *Government Performance and Results Act* publication. The year 2001 turned a different page in economic and political life of the American cities and local governments following the economic recession that started in the third quarter of 2001

and the events of September 11, 2001. This leads to assume, that fiscal health of U.S. cities and the local governments in 2001 and the years that follow would be determined by a number of other different factors than those present in 1995-2000. That is why the current research focused exclusively on the 1995-2000 time span.

## A. Data Analysis

Before the in-depth analysis and testing a variety of statistical models with the data, causality of the relationship between the variables of the proposed study model was examined. This was done in particular to address possibly existing endogeneity issue between the dependent variable innovation scope and independent variable fiscal health.

The fact is that econometric models divide variables into "endogenous" and "exogenous." The former are defined as variables with causal links within the model. The values of the latter are determined outside of the model, i.e. they have no causal links within the model, and are assumed to be statistically independent of all stochastic disturbance terms of the model. Classification of a particular variable as exogenous/endogenous depends on a chosen causal research model. The same variable may be classified as exogenous in one model and as endogenous in another model based on exactly the same set of variables. Explicitly, exogeneity of a variable depends on the parameters of interest of the researcher and on the purpose of the research model.

Since the time of Schumpeterian definition of innovation (Schumpeter, 1934), there is still no sound theoretical argument for treating financial resource availability and organizational innovation as endogenous when used as regressors in the explanation of the other. In other words, little empirical evidence exists to suggest that financial resource availability drives organizational innovation or vice versa.

**Step 1: Endogeneity Test**

In order to test if endogeneity is the case for the model proposed by this research, general Hausman (1978) [33] test was conducted. The predicted fiscal health variable was obtained by "predict fhealthhat, xb" command in STATA to predict the fiscal health and keep it as a separate variable "fhealthhat". The predicted fiscal health variable was then added as a regressor in the original regression equation.

**TABLE IV**
HAUSMAN ENDOGENEITY TEST: FISCAL HEALTH

***Regression with predicted fhealthhat***

| Source | SS | df | MS | | Number of obs = | 140 |
|---|---|---|---|---|---|---|
| | | | | | F( 10, 129) = | 3.39 |
| Model | 27128.4918 | 10 | 2712.84918 | | Prob > F = | 0.0006 |
| Residual | 103370.275 | 129 | 801.319961 | | R-squared = | 0.2079 |
| | | | | | Adj R-squared = | 0.1465 |
| Total | 130498.767 | 139 | 938.840049 | | Root MSE = | 28.308 |

| innovscope | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| fhealth_95 | 4.527806 | .9805561 | 4.62 | 0.000 | 2.587752 | 6.467861 |
| slack_95 | 2.094254 | 3.229023 | 0.65 | 0.518 | -4.294447 | 8.482955 |
| fiscauthor | -.0701306 | 3.982679 | -0.02 | 0.986 | -7.949959 | 7.809698 |
| tels | 5.030078 | 5.832225 | 0.86 | 0.390 | -6.509122 | 16.56928 |
| hr_funct | -4.605407 | 7.607226 | -0.61 | 0.546 | -19.65649 | 10.44568 |
| govsize | -.0021538 | .001718 | -1.25 | 0.212 | -.0055528 | .0012452 |
| admindum | (dropped) | | | | | |
| adadmindum | .7018414 | 6.341728 | 0.11 | 0.912 | -11.84542 | 13.24911 |
| adaptdum | 9.179825 | 10.8501 | 0.85 | 0.399 | -12.28737 | 30.64702 |
| adpolitdum | 26.91891 | 11.79594 | 2.28 | 0.024 | 3.580355 | 50.25746 |
| **fhealthhat** | -1.304819 | 5.252535 | **-0.25** | 0.804 | -11.69709 | 9.087449 |
| _cons | 20.81936 | 16.27508 | 1.28 | 0.203 | -11.38128 | 53.02001 |

The test statistic for the fhealthhat coefficient was then used in the test of endogeneity. In the above presented STATA output, the calculated standard normal test statistic *z* value is −0.25, which does not exceed the absolute value of the 0.05 percent Type I error critical -1.96 standard normal value. Thus, the null hypothesis of an exogenous fiscal health as an

[33] Hausman, J.A., "Speci_cation Test in Econometrics", Econometrica 46(6), 1978, pp. 1251-1271.

explanatory variable for the innovation scope can be accepted. The fiscal health variable is exogenous in the explanation of the variable innovation scope.

Similar estimation logic in testing for the endogeneity of the innovation scope variable in the fiscal health equation yields a calculated $z$ test statistic of $-0.19$, which similarly, does not exceed the absolute value of its -1.96 critical value. The innovation scope can be interpreted as an exogenous in an explanation of the fiscal health.

**TABLE V**
HAUSMAN ENDOGENEITY TEST: INNOVATION SCOPE

***Regression with predicted innovschat***

| Source | SS | df | MS | Number of obs = 140 |
|---|---|---|---|---|
| Model | 261.386008 | 10 | 26.1386008 | F( 10, 129) = 4.71 |
| Residual | 715.200473 | 129 | 5.54418971 | Prob > F = 0.0000 |
| Total | 976.586481 | 139 | 7.02580202 | R-squared = 0.2677 |
| | | | | Adj R-squared = 0.2109 |
| | | | | Root MSE = 2.3546 |

| fhealth_95 | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| innovscope | .0313271 | .0067843 | 4.62 | 0.000 | .0179042 | .04475 |
| slack_95 | .2388432 | .2437763 | 0.98 | 0.329 | -.2434741 | .7211606 |
| fiscauthor | .1663803 | .332595 | 0.50 | 0.618 | -.4916671 | .8244277 |
| tels | -.8803053 | .3050337 | -2.89 | 0.005 | -1.483822 | -.2767887 |
| hr_funct | -.6037139 | .5241399 | -1.15 | 0.252 | -1.640738 | .4333099 |
| govsize | .0000502 | .0001638 | 0.31 | 0.759 | -.0002738 | .0003743 |
| admindum | 1.665468 | .7428178 | 2.24 | 0.027 | .1957844 | 3.135151 |
| adadmindum | .65618 | .5840792 | 1.12 | 0.263 | -.4994349 | 1.811795 |
| adaptdum | -.2076728 | .8721481 | -0.24 | 0.812 | -1.933239 | 1.517893 |
| adpolitdum | (dropped) | | | | | |
| **innovschat** | -.0066368 | .035743 | **-0.19** | 0.853 | -.0773552 | .0640817 |
| _cons | .0528816 | 1.588858 | 0.03 | 0.974 | -3.090712 | 3.196475 |

The Hausman test reveals no endogeneity issue in the proposed study model. Thus, the question of whether the proposed by this study model can be considered as an adequate for testing the relationship between fiscal health of U.S. cities and their innovation can be answered positively.

**Step 2: Logistic Regression**

In order to see how much is actually gained by using continuous variable for measuring the extent of PM innovation implementation (dependent variable) instead of simply measuring innovation occurrence (i.e. using a binary dependent variable, where PM system use in a city government would be coded as 1 and its non-use coded as 0), logistic regression model was applied to the data analysis. Table VI presents the ordinary least squares (OLS) and logistic regression results. In fact, the logit test shows that such independent variables as adapted political form of city government, fiscal health, and TELs have lower and less statistically significant coefficients than in the OLS regression model. Therefore, the use of the measure that accounts for the extent or scope of PM innovation implementation in U.S. cities is preferred to the measure that simply considers PM innovation occurrence.

**TABLE VI**
ORDINARY LEAST SQUARES (OLS) REGRESSION

| Source | SS | df | MS | | Number of obs = | 140 |
|---|---|---|---|---|---|---|
| | | | | | F( 10, 129) = | 3.39 |
| Model | 27128.4918 | 10 | 2712.84918 | | Prob > F = | 0.0006 |
| Residual | 103370.275 | 129 | 801.319962 | | R-squared = | 0.2079 |
| | | | | | Adj R-squared = | 0.1465 |
| Total | 130498.767 | 139 | 938.840049 | | Root MSE = | 28.308 |

| innovscope | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| **fhealth_95** | **4.527806** | .9805561 | 4.62 | **0.000** | 2.587752 | 6.467861 |
| slack_95 | 1.68236 | 2.649463 | 0.63 | 0.527 | -3.559667 | 6.924387 |
| fiscauthor | -.3035415 | 4.004912 | -0.08 | 0.940 | -8.227357 | 7.620274 |
| tels | **6.101963** | 3.636918 | 1.68 | **0.096** | -1.093768 | 13.29769 |
| hr_funct | -3.588367 | 5.957789 | -0.60 | 0.548 | -15.376 | 8.199264 |
| govsize | -.0021497 | .0017171 | -1.25 | 0.213 | -.005547 | .0012477 |
| admindum | -2.361016 | 9.504241 | -0.25 | 0.804 | -21.16539 | 16.44336 |
| adadmindum | -.2529444 | 7.487544 | -0.03 | 0.973 | -15.06723 | 14.56135 |
| adaptdum | 9.152919 | 10.88528 | 0.84 | 0.402 | -12.38388 | 30.68971 |
| **adpolitdum** | **25.9767** | 12.35923 | 2.10 | **0.038** | 1.52365 | 50.42975 |
| _cons | 20.01568 | 14.66075 | 1.37 | 0.175 | -8.990968 | 49.02234 |

**TABLE VII**
LOGISTIC REGRESSION

Number of obs = 140
**LR chi2(10) = 38.62**
**Prob > chi2 = 0.0000**
Pseudo R2 = 0.2041 Log likelihood = -75.304137

| innovscope | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| fhealth_95 | **.4512607** | .1052883 | 4.29 | **0.000** | .2448995 | .6576219 |
| slack_95 | .0669176 | .2064122 | 0.32 | 0.746 | -.3376428 | .471478 |
| fiscauthor | -.0122948 | .3344022 | -0.04 | 0.971 | -.6677111 | .6431215 |
| tels | **.6298691** | .2936676 | 2.14 | **0.032** | .0542911 | 1.205447 |
| hr_funct | -.3242796 | .4933862 | -0.66 | 0.511 | -1.291299 | .6427395 |
| govsize | -.0001934 | .0001691 | -1.14 | 0.253 | -.0005249 | .000138 |
| admindum | -.2494119 | .7915289 | -0.32 | 0.753 | -1.80078 | 1.301956 |
| adadmindum | -.4421469 | .6572632 | -0.67 | 0.501 | -1.730359 | .8460653 |
| adaptdum | .8922942 | .9092924 | 0.98 | 0.326 | -.8898861 | 2.674475 |
| adpolitdum | 1.66251 | 1.073614 | 1.55 | 0.121 | -.4417342 | 3.766754 |
| _cons | -.618979 | 1.207483 | -0.51 | 0.608 | -2.985602 | 1.747644 |

**Step 3: <u>Poisson and Negative Binominal Regression Models</u>**

Since the scope of implemented innovation (measured in terms of the number of related functions performed by city governments) is a nonnegative number varying from 0 to 96.42), a count data model is an appropriate statistical model to estimate the effect of cities' fiscal health on their innovation implementation behavior. There are two commonly used count data models: the Poission and the negative binomial. The Poisson probability law can be described by the following equitation (Creel and Loomis, 1990):

$$\Pr(\mathrm{IS}) = [\exp(-\lambda)\,\lambda^{IS}]/\mathrm{IS} \qquad (8)$$

where Pr(IS) is the probability that an individual city has implemented certain degree of innovation IS (Innovation Scope), and $\lambda$ is both the mean and the variance of the

implemented innovation. Thus, the Poisson model requires the variance of the dependent variable be equal to the mean. Descriptive statistics analysis for the dependent variable InnovScope demonstrates that its variance (938.84) is different from mean (23.44186). See Table VIII below. Moreover, the results of Poisson regression model test indicated the large value for chi-square (5410.845) in the poisgof, which is an indicator that the Poisson distribution is not a good choice the data of this study.

**TABLE VIII**
DESCRIPTIVE STATISTICS: DEPENDENT VARIABLE

| **InnovScope** | | | | |
|---|---|---|---|---|
| Percentiles | | Smallest | | |
| 1% | 0 | 0 | | |
| 5% | 0 | 0 | | |
| 10% | 0 | 0 | Obs | 140 |
| 25% | 0 | 0 | Sum of Wgt. | 140 |
| 50% | 0 | | Mean | 23.44186 |
| | | | Std. Dev. | 30.6405 |
| 75% | 52.51 | 88.53 | | |
| 90% | 69.895 | 92.12 | Variance | 938.84 |
| 95% | 78.14 | 96.42 | Skewness | .7743724 |
| 99% | 96.42 | 100 | Kurtosis | 2.073394 |

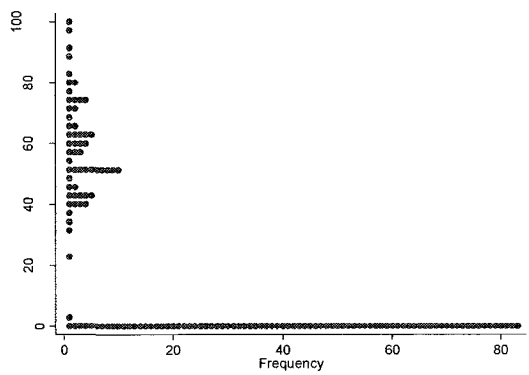
The negative binomial regression is a generalization of the Poisson model that does not require the variance to be equal to the mean (Loomis, 2002). The negative binomial probability law is described by the following equation,

$$\Pr(IS) = \frac{\Gamma\left(IS + \frac{1}{\alpha}\right)}{\Gamma(IS+1)\Gamma\left(\frac{1}{\alpha}\right)} (\alpha\lambda)^{IS}(1+\alpha\lambda)^{-(IS+1/\alpha)} \quad (9)$$

where Γ is the gamma function and α is the overdispersion parameter. The mean of the innovation scope is still λ, but the variance is no more equal to the mean, it is rather equal to $\lambda + \alpha\lambda^2$.

Hence, the negative binomial model estimates both λ and α. If the mean is equal to the variance, then a = 0, and the negative binomial model collapses into the Poission model. Since a data plot indicates the mean-variance equality of the Poission model is most likely violated (see scatter-plot Table IX below), the negative binomial regression model was used to test the α is significantly different from zero.

**TABLE IX**
SCATTER-PLOT: DEPENDENT VARIABLE INNOVATION SCOPE



**Step 4: Negative Binomial and Logit Regression**

Table X below presents the negative binominal regression model[34] for the scope of innovation implementation by 140 city governments using 1995 cities financial data. The overdispersion parameter alpha (likelihood ratio test) is significantly different from zero, which reinforces the argument that the poisson distribution is not appropriate for the data. According to this model, fiscal health and TELs are the only statistically significant positive predictors of innovation implementation in the middle-size American cities: variable fhealth_95 is significant at 0.006 level; B = 0.398; variable TELs is significant at 0.095 level, while its coefficient is much higher B =0.709. Four other variables – adapted political, adapted, and adapted administrative forms of government as well as slack show positive (B (adpolitdum) =1.84; B (adaptdum) =0.70; B (adadmindum) = 0.14; B(slack_95)=0.224) but not statistically significant relationship with the dependent variable innovation scope.

**TABLE X**
NEGATIVE BINOMIAL REGRESSION

Number of obs = 140
**LR chi2(10) = 10.57**
Dispersion = mean **Prob > chi2 = 0.3921**
Log likelihood = -417.36897 Pseudo R2 = 0.0125

| innovscope | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| fhealth_95 | .3989244 | .1457041 | 2.74 | **0.006** | .1133497 | .6844992 |
| slack_95 | .2243803 | .2635208 | 0.85 | 0.395 | -.2921109 | .7408714 |
| fiscauthor | -.237134 | .376259 | -0.63 | 0.529 | -.9745881 | .5003201 |
| admindum | .67067 | .9719346 | 0.69 | 0.490 | -1.234287 | 2.575627 |
| adadmindum | .1393245 | .6835436 | 0.20 | 0.838 | -1.200396 | 1.479045 |
| adaptdum | .7018004 | 1.036253 | 0.68 | 0.498 | -1.329217 | 2.732818 |
| adpolitdum | 1.840095 | 1.237466 | 1.49 | 0.137 | -.5852936 | 4.265484 |
| tels | .7099487 | .4248064 | 1.67 | **0.095** | -.1226566 | 1.542554 |
| hr_funct | .0164387 | .5912666 | 0.03 | 0.978 | -1.142423 | 1.1753 |

[34] Before applying the presented regression models to the data, OLS regression was also considered as one of the possible approaches. However, this analysis did not reflect the uncertainty concerning the nature of the exact values within each interval nor dealt adequately with the left-censoring issues in the tails.

| | | | | | | |
|---|---|---|---|---|---|---|
| govsize | -.0000571 | .0002486 | -0.23 | 0.818 | -.0005443 | .0004301 |
| _cons | 2.150044 | 1.27383 | 1.69 | 0.091 | -.3466156 | 4.646704 |
| /lnalpha | 2.038303 | .1572553 | | | 1.730089 | 2.346518 |
| alpha | 7.677572 | 1.207339 | | | 5.641154 | 10.44912 |

Likelihood-ratio test of alpha=0: chibar2(01) = 4655.77 Prob>=chibar2 = 0.000

In the above presented table, Prob > chi2 0.3921 indicates that the probability of getting a Likelihood Ratio (LR) test statistic equal or higher than it is observed under the null hypothesis (the null hypothesis is that all regression coefficients are equal to 0). In our case the probability of obtaining LR chi2(10) 10.57 statistic is $p = 0.3921$. High $p$ value leads to accepting the null hypothesis. This leads to the conclusion that the negative binominal regression model is not the best fit for the analyzed data.

Testing the negative binominal regression model for 2000 financial data set demonstrated similar results - fiscal health and TELs appeared as the major statistically significant positive predictors (B (fhealth_00) =0 .397; p = 0.007; B (TELs) = 0.862; p = 0.06 ) of the scope of innovation implementation in the medium-sized U.S. citeis. No significance of the negative binominal regression model was identified while testing the model for the data set including change variables. The probability of obtaining LR chi2(10) 10.83 statistic, according to the 2000 data, is $p = 0.3711$. This similarly leads to the conclusion that the negative binominal regression model is not the best fit for the data.

**Step 5: <u>Interval Regression</u>**

Since analyses of the type when the extreme values of the categories on either end of the range are either left-censored (which is the case here) or right-censored require a generalization of censored regression known as interval regression, this type of analysis was

also applied to the data. The idea of interval regression formulation is same as the traditional linear regression methods which can be described by the following equation,

$$IS = a + b_1*FH_1 + b_2*S_2 + b_3*FA_3 + b_4* HR\_Fisc_{4+} b_5HR\_Funct_5 + b_6*GT_6 + b_7*GS_7 + e \quad (10)$$

where explanatory variables are fiscal health ($FH_1$), Slack ($S_2$), Fiscal Authority ($FA_3$), Fiscal Home Rule ($HR\_Fisc_4$) Functional Home Rule ($HR\_Funct_5$), GovType ($GT_6$) and GovSize ($GS_7$) variables, and the dependent variable is innovation scope *(IS)*. The means, standard deviations, and correlations for the regressions may be found in the Appendix C to this document. The correlation matrices indicate no significant correlations at .50 or higher levels between the variables in the model, which implies no multicollinearity problem according to Leech, Barret and Morgan (2007: 105).

In case of interval regression, the variable distribution is divided into a certain number of intervals, for which the number and proportion of cases that entered the respective interval (i.e. scope of innovation implementation) is computed (invscope1 variable) as well as the number of cases that failed in the respective interval (e.g. no or 0 innovation implementation; invscope2 variable).[35] The results of interval regression model testing for innovation implementation in 140 city governments for 3 sets of data (FY 1995, FY 2000 and a set including change in city fiscal health and slack variables) is presented in Tables IX and X below. The *p*-value for the chi-squared (that tests the difference between the full model, with predictors, and the constant only model) with 10 degrees of freedom is p = .0001. The model, as a whole, is statistically significant.[36]

---

[35] Source : StatSoft :Electronic Statistic Textbook, available at http://www.statsoft.com/textbook/survival-failure-time-analysis/#rnormal

[36] The probability of obtaining a LR test statistic (LR chi2(10) = 35.62) equal or higher than it is observed under the null hypothesis (suggestions that all regression coefficients are equal to 0) is $p = 0.0001$.

The reported effect of cities fiscal health on the scope of implemented innovation in 1995 is positive and statistically significant B (FHealth_95) = 11.29, $p \leq 0.000$. The two other important statistically significant predictors of performance measurement innovation in U.S. city governments in 1995, according to this model, are adapted political form of government (B (adpolitdum) = 55.33; $p \leq 0.037$), and TELs (B(TELs) = 18.02; $p \leq 0.034$). It is noteworthy that adapted political form of city government appears as the most important statistically significant predictor of the scope of PM innovation implementation followed by TELs and fiscal health of a city. Adapted form of city government (as per Frederickson et al. (2001) classification) has second highest (although statistically insignificant) coefficient in the model (B (adaptdum) = 24.04; $p \leq 0.328$), see Table XI below. Fiscal slack and administrative form of city government variables are positively but insignificantly correlated with the innovation scope, where B (slack_95) = 5.05; $p = 0.367$ and B(admindum) = 1.69; $p = 0.936$. Functional home rule, fiscal authority, adapted administrative form and size of government are negatively correlated with the innovation scope variable with important coefficients values, but their correlations are interpreted as statistically insignificant. As a whole, the interval regression model is statistically significant at 0.0001 level.

**TABLE XI**
INTERVAL REGRESSION

Number of obs = 140
LR chi2(10) = 35.62
Log likelihood = -353.45095 **Prob > chi2 = 0.0001**

| | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| **fhealth_95** | **11.2865** | 2.464952 | 4.58 | **0.000** | 6.455284 | 16.11772 |
| slack_95 | 5.048752 | 5.600517 | 0.90 | 0.367 | -5.928059 | 16.02556 |
| fiscauthor | -2.894075 | 9.050312 | -0.32 | 0.749 | -20.63236 | 14.84421 |
| **tels** | **18.01897** | 8.475517 | 2.13 | **0.034** | 1.407262 | 34.63068 |
| hr_funct | -5.565877 | 13.16358 | -0.42 | 0.672 | -31.36603 | 20.23427 |
| govsize | -.0052127 | .0047544 | -1.10 | 0.273 | -.014531 | .0041057 |
| admindum | 1.692458 | 20.98463 | 0.08 | 0.936 | -39.43666 | 42.82158 |
| adadmindum | -2.204762 | 17.56132 | -0.13 | 0.900 | -36.62431 | 32.21478 |
| adaptdum | 24.03968 | 24.57917 | 0.98 | 0.328 | -24.13461 | 72.21398 |
| **adpolitdum** | **55.33016** | 26.5788 | 2.08 | **0.037** | 3.236667 | 107.4237 |
| _cons | -19.60916 | 33.16456 | -0.59 | 0.554 | -84.6105 | 45.39219 |
| /lnsigma | 4.006223 | .1080965 | 37.06 | 0.000 | 3.794358 | 4.218089 |
| sigma | 54.93899 | 5.938712 | | | 44.4497 | 67.90357 |

Observation summary: 83 left-censored observations
57 uncensored observations
0 right-censored observations
0 interval observations

When applied to the FY 2000 data set, the interval regression model shows that fiscal health variable is also highly statistically significant but not the most important predictor of city implemented innovation scope. Similarly to the FY 1995 data set, the most important predictor of the dependent variable innovation scope in 2000 is adapted political form of government (with slightly lower coefficient than the one observed with FY 1995 data set) followed by TELs (with the same coefficient and statistical significance level), and fiscal health (with slightly lower coefficient than in 1995): B (adpolitdum) = 51.24; $p \leq 0.055$, B(TELs) = 18.54; $p \leq 0.032$), B(fhealth_00) = 10.26; $p \leq 0.000$). Adapted form of city

government has second highest (after adapted political) coefficient in the model (B (adaptdum) = 28.55; $p \leq 0.245$), although not statistically significant. Fiscal slack and fiscal authority are positively but insignificantly correlated with the innovation scope, where B (slack_00) = 6.16; p = 0.383, B (fiscauthor) = 4.63; p = 0.611. Functional home rule, adapted administrative and administrative form as well as size of government are negatively correlated (indicating no statistical significance) with the innovation scope variable. The FY 2000 interval regression model as a whole is statistically significant at $p = .0002$ level.

The results of interval regression analysis of the third set of data, i.e. data including change in city fiscal health and slack variables from 1995 to 2000, indicate only two – although not highly statistically significant - predictors - TELs B (TELs) = 49.75; $p \leq 0.083$), and change in fiscal health B(changefh) = 0.029; $p \leq 0.043$. The model as a whole is not significant.

The interval regression model predicting city government innovation from city fiscal health, slack, fiscal and functional home rule, form and size of government is statistically significant for the FY 1995 and 2000 data sets. The $R^2$ values of the model correspondently are 0.20 for FY 1995 and FY 2000 data, and 0.09 for the model including rate of change in fiscal health and slack. This indicates that 20 % of city government innovativeness in 1995 and 2000 is explained by the proposed model. It is also important to note, that upon exclusion the size of city government variable from the analysis the value of $R^2$ increased for every set of the data - 0.40 for FY 1995 and 2000, and 0.24 for the model including rate of change in fiscal health – indicating that other six predictors accounted for approximately 40% of the variability in the dependent variable innovation scope.

## B. Summary of Findings

The above presented tests of a variety of statistical models applied to the data of this study, thus, yield the following conclusions. The results of the analysis provide support for the general proposition of the study that fiscally healthy middle-size city governments in the U.S. innovate more. "Cities Rating by Fiscal Health Index" table in the Appendix K to this document offers cities ranking by the estimated index of their fiscal health - the values of which varies from 9.94 to -6.1, - and implemented PM system innovation. At the top of the list we find the estimated healthiest U.S. middle-sized cities in 1995. Six out of top ten are represented by the cities located in north-western part of the U.S. (Washington state), seven out of last ten are the cities in Ohio. 76 out of 140 analyzed cities have negative value of the estimated fiscal health index, the values of which vary from 0 to -6.1.

The degrees of performance measurement innovation implementation tend to grow with higher values of city fiscal health. These findings are in agreement with the arguments provided by economic (Schumpeter, 1934), public administration (Mohr, 1969; Cyert and Mart, 1963; Simon,1958), policy diffusion (Clark, 1985; Gray, 1973; Hwang and Gray, 1991; Mooney and Lee, 1995), innovation (O'Sullivan, 2005; Rogers, 1995; Bozeman and Slusher, 1979), and performance measurement literature (McGowan and Stevens, 1983; May and Meltsner, 1981) that maintains that financial resources (or wealth) are necessary to initiate, direct and implement innovation. The results of this research additionally support the statement that performance measurement implementation is a complex innovative policy, accomplishment of which does not solely entails considerable investment of budgetary resources to support institutional capacities, e.g. administrative structures, professional expertise and coordination, crucial for innovation implementation (Tobert, Mossberger and McNeal, 2008; De Lancer Julnes & Holzer, 2001; Fountain, 2001; Peters, 2001) but is also

determined by institutional environment of the implementing jurisdiction. Adapted political form of government is reported as the most important predictor of city government innovation. The closest to this form on Frederickson's et al. (2004) continuum - adapted government form – also shows strong positive association with the dependent variable innovation scope, although less statistically significant. Adapted administrative and administrative form of city government variables show very little positive but statistically insignificant association with the scope of implemented PM innovation. This implies that cities with political or adapted form of government (i.e. with statutory mayor-council form of government, see Frederickson's et al. (2004) classification table presented in the Appendix I) are more likely to innovate than cities with adapted administrative and administrative government forms (with statutory council-mayor form of government) regardless numerous arguments in the literature that suggest the opposite (Nalbandian 1999; Poister and Streib 1999; and Krebs and Pelissero 2009)

Degree of city government fiscal autonomy - defined in terms of fiscal home rule or TELs level – is the second by its importance determinant of local government innovation. Cities with more fiscal autonomy, i.e. cities with no property or general TELs, innovate more than those with lower fiscal autonomy levels. This translates into the conclusion that U.S. cities with more discretion in their fiscal decision-making tend to implement more innovations than cities with no such discretion.

Fiscal slack variable shows positive but insignificant association with the scope of implemented PM innovation, while functional home rule, fiscal authority, adapted administrative form and size of government have insignificant negative effect with the home rule variable showing the highest negative association. These variables thus appear to have little or no significant effect on performance measurement innovation in the middle-sized

U.S. cities. These facts support one of the most important arguments of this study that cities' institutional, economic, and political environments vary greatly and thus, affect the relationship between city government fiscal health and innovation at a varying degree.

# V. CONCLUSION

This analysis of fiscal and performance measurement data of a representative sample of middle-sized American cities extends previous research on determinants of local government innovation by including the measures reflecting the uniqueness of economic bases and institutional arrangements of individual city governments in the U.S. This study was motivated by the fact that almost a century after Schumpeterian definition of economic innovation (Schumpeter, 1934), there was still no sound evidence that financial resource availability drives organizational innovation. The existing public administration, innovation, and economic research presented sharply divided perspectives on the relationship between fiscal health and innovation.

According to Schumpeter (1996), Rogers (2003), and O'Sullivan (2005), significant resources are necessary to initiate, direct and implement innovation. Since innovation implementation takes time, resource commitment has to be constant until the implementation process is complete. Public finance scholars, however, offered a sequence of inconsistent views on the matter (Levine, Rubin and Wolohojlan, 1981; Bozeman and Slusher, 1979; Zaltman 1973; March and Simon, 1958). One side emphasized the importance of environmental change and performance gaps - in the form of local tax base decline, reduction in intergovernmental assistance, external imposition of tax or expenditure limitations, increases in demand for public services, or predicted budget deficit, - as stimuli which increase innovative behavior (Zaltman, 1973; March and Simon, 1958). Zaltman (1973), for instance, argued that changes in the environment create a situation of stress or pressure to which the adoption unit must respond if it is to remain in a dynamic equilibrium with the environment. According to this perspective, local governments experiencing financial pressures are more likely to innovate then the governments with steady fiscal conditions. The

other side suggested that availability of financial resources wass crucial for innovation. According to Levine et al. (1981) and Bozeman and Slusher (1979), public organizations faced with resource scarcity will engage in maladaptive rather than innovative behavior, becoming more rigid and conservative in their actions. "The essential message is that environmental stress [...] could be expected to breed structural rigidity, formalization, habitual response and increasing interorganizational conflict" (Bozeman and Slusher, 1979: 346). These characteristics are, except perhaps for the last one, generally found to be inversely related to the adoption of innovative behavior. Levine et al. (1981) argue that loss of spare resources reduces the potential for fiscally stressed local governments to innovate.

These sets of arguments led to the series of inter-related research questions pursued by this study. First, does financial resource availability represent a crucial factor for innovation implementation in U.S. city governments? Second, can fiscally stressed cities be expected to innovate more than fiscally healthy ones, i.e. does poor fiscal health lead to innovation? Third, does slack resource availability in a government have any effect on the scope of city implemented innovation? Forth, does the form of city government or its size define the relationship between city fiscal health and the scope of implemented innovation? Finally, what is the effect of intergovernmental institutional arrangements – e.g. fiscal and functional home rule status – on the relationship between fiscal health and innovation, i.e. do city governments with more fiscal autonomy or less restrictive TELs and/or home rule status tend to innovate more than cities with less autonomy and/or non- home rule city governments?

One of the most important arguments of this work is that cities' economic, political and institutional structures affect the relationship between their government fiscal health and innovation. Based on the existing bodies of public administration, public finance, economics, policy diffusion, performance measurement, and innovation literature, and focusing on the

city-level of analysis this research proposed a model that links together local government fiscal health and innovation while encompassing exogeneity of city environments. The methodology used to develop the proposed by this study fiscal health index is largely based on a framework put forward by R. Hendrick (2004), which relies on a systems view of local government financial condition and offers a multifaceted measure of local government fiscal health accounting for its environmental features (own-source revenue wealth and spending needs), fiscal balance indicators (revenues/wealth and spending/needs), and fiscal structure of a government. This framework emphasizes that fiscal health is a complex multidimensional concept, the dimensions of which are often related in indirect or nonlinear ways.

The overall expectation of this research was that cities with higher degrees of fiscal health will innovate more. This lead to the main hypothesis of the study suggesting that larger-size fiscally healthy U.S. cities with 'political form of government,'[37] higher degree of fiscal autonomy, and higher level of slack, will innovate more. Assumptions about the effect of city size, form of government, fiscal autonomy and slack resource availability on fiscal health-innovation relationship were made based on the existing empirical evidence confirming the significance of local government structure and institutional arrangements for innovative decision-making.

The main finding of this research is that fiscally healthy cities innovate more. The innovation behavior of fiscally healthy city governments differ from that of fiscally stressed ones in a way that PM innovations in the former have higher implementation scope and vary according to the degree of cities fiscal autonomy and the form of their government. Even though good fiscal health of middle-sized U.S. cities is a key factor for PM system innovation,

[37] In Frederickson's et al.(2004) classification.

this kind of innovation appears to be more of a political rather than economic issue for the cities, an issue that is largely defined by institutional structures of city governments.

Overall, the research findings support the proposed hypothesis. The research question about whether or not financial resource availability represents a crucial factor for performance measurement innovation implementation in U.S. city governments can be answered positively. Nevertheless, 3 out of 5 propositions made at the beginning of this research (namely, propositions 2, 3 and 4) were not supported. More precisely, such factors as fiscal slack availability, functional home rule and size of city governments appear to have no or even negative insignificant effect on performance measurement innovation.

One of the most important conclusions of this research is that, even though PM innovations are financial resource driven, their implementation is still highly determined by the priorities and decisions of local public policy officials. This implies that, when designing PM innovation in a government, particular attention should be paid to assuring that political leadership of the jurisdiction have complete understanding of the benefits of this innovation implementation.

Whereas it is too early to estimate the strategies local governments use to cope with financial distress today, the analysis of the extent to which local governments' fiscal conditions shaped their innovative policy decisions in the past (e.g. fiscal years 1995 and 2000) may help to choose better policy approaches to cope with nowadays economic situation. More insight about the role of city fiscal health in local innovative policy decision-making provides some guidance to the U.S local officials on how to deal with existing exigencies as - even though a number of innovation-focused economic recovery initiatives have been implemented, - our understanding of local government finance for urban innovative action in the midst of current economic crisis is far from perfect. Thus, the findings of this

study have important implications for both public administration policy theory and practice. The rest of this chapter outlines these implications and suggests areas for future research.

## A. Public Policy Implications

The results of this research have three important implications for public policy and government decision-makers. The first one is related to the fiscal component of the research, the second concerns innovation financing mechanism in general, while the third pertains to the institutional characteristics of the innovation implementing city and the features of innovation itself. The study demonstrates that good fiscal health of a government leads to higher scope of its PM innovation implementation. Thus, in local government context, policy-makers should positively answer the question about whether or not availability of financial resources is crucial for innovation. At the same time, fiscal health is not the only determinant of city innovation. The analysis shows that only when combined with higher degree of fiscal autonomy and political (i.e. statutory mayor-council) form of government good fiscal health of a city translates into higher degree of its innovation implementation: fiscally healthy cities with higher degree of local autonomy (i.e. less restrictive or no general TELs) and adapted political form of government innovate more than cities with restrictive tax and expenditure limits (e.g. a levy limit, or a general revenue or expenditure limit) and administrative government form in place. Thus, the long maintained argument of local government scholars (Bollens, 1986; Feiock and Carr, 2001; Miller, 1981) that home rule provisions ('fiscal home rule' in the case of this analysis) define the powers of local government is well retained: more flexibility in financial decision-making translates into higher degree of innovation implementation in middle-sized U.S. cities.

Another implication of this research for public policy decision-making is related to the type of financial resources used in innovation implementation process. At the outset of the study, the argument was presented that one particular feature of local government innovation is that it is heavily dependent on internal funding requiring internal resources to support it. The long and unpredictable payback, the uncertainty of future outcomes, and the intangible nature of the assets produced make it difficult to finance local government innovation with external sources. Thus, it was reasonable to consider the availability of internal resources as one of the determinants of city government innovation. Whereas it was found that better fiscal health of a city government is crucial for higher degree of city innovation implementation, such component of government fiscal structure as slack (defined in its budgetary terms) indicated no significant effect on PM innovation implementation. This is an important point to be considered by city managers in their designing of innovation financing strategies: having slack resources in a government (i.e. having excessive pool of resources available to a government beyond those necessary to meet its immediate requirements) is less important for city innovation than maintaining good fiscal health of a government.

The third important implication of this study for policy-makers concerns the institutional environment of an innovation implementing jurisdiction and characteristics of innovation itself. In particular, it relates to the form of city leadership and innovation policy features. Despite the arguments presented by recent public administration research that cities with administrative form of government (where administrative professionals play a crucial role in initiating new policies and aiming to improve transparency and accountability of a government in front of citizens and elected officials) have all reasons to be more supportive of such resource- and administrative skill-driven innovation as performance measurement,

political forms of government[38] (those found on the opposite to 'administrative' side of Frederickson's et al. (2004) continuum of government forms, see p. 69 of this work) appear to be the most supportive of city innovation. This confirms the earlier presented findings by Elkins (1995) and others that cities with statutory mayor-council form of government (or political and adapted political in Frederickson's et al. (2004) classification) favor entrepreneurial strategies and innovations to considerably higher extent than cities with council-manager form. It is noteworthy that such institutional factor as form of city government appears to be even more significant element in implementing city government innovation than fiscal health of a jurisdiction.

This research also shows that characteristics of performance measures as an innovative policy tool to evaluate government performance matter for the degree of this innovative policy integration with other government policy domains and activities. Moreover, these characteristics affect the innovation implementation process itself. Complex policies such as performance measurement, which pursue multiple goals (performance and productivity evaluation, control, feedback, strategy development) and enter almost every unit of the government structure, represent a financial resource-dependent innovation, according to this research.

It should be bleared in mind that given the diversity of government policy areas and the variety of their characteristics, measuring innovation in general across all policy domains is unfeasible. That is why thorough study of innovative policy features should precede any analysis of its adoption or implementation, as the need for professional expertise and resources, as well as time (short- or long-term) for implementing different policies may vary greatly based on their characteristics.

---

[38] Whose statutory charter from is mayor-council, as per Frederickson's et al. (2004: 108-109) "Types and Categories of American Cities" classification table.

These results improve our understanding of the transformational activities and management issues the public sector faces today while offering informed concussions to state and federal legislators in the developing of intergovernmental aid policies and innovation financing strategies. Knowing that cities' fiscal health plays a key role in their innovation implementation, the state and/or federal legislators should keep in mind the necessity of upfront investment of financial resources if they are to stimulate urban economic recovery by means of longer-term strategic innovations. This may consequently require state and/or federal intervention with financial aid.

In the ways described above, the research findings provide an important contribution to local government autonomy and innovation policy diffusion literature. Yet, further empirical inquiries are needed in order to better understand how fiscal health of other levels of government (e.g. state, other local - counties, municipalities, larger cities, etc.) affect their incentives to innovate on a short- and long-term basis.

## B. Theoretical Implications

The key scholarly contribution of this work is the integration of public administration, finance and innovation research. The study extended fiscal health evaluation component of public administration and finance literature to account for the effects fiscal health condition and institutional environment of a government may have on innovative activity implementation in U.S. cities. Expanding the public finance and innovation scholarship in this way, this study offers insights to the determinants and outcomes of this relationship contributing to better understanding of the dynamics between public resources availability and the degree of city governments' innovation.

First, for the reason that only a few scholars focused on the relationship between local government fiscal health and innovative behavior and none of these studies investigated the nature of this relationship in city context, there was an important gap in our understanding of what actually drives innovative behavior in a city government - availability of financial resources or their scarcity. In addition, the necessity for our improved understanding of how city fiscal health - innovation relationship may be affected by the diversity of city environments - which include but are not limited to the differences in jurisdictional tax bases and structures, their institutional arrangements, community size, and form of government, made this study particularly appealing. Innovation literature, in its turn, presented a well-defined inconsistency in views. Zaltman (1973), for instance, saw environmental instability and change as stimuli for innovative behavior. Bozeman and Slusher (1979), affirmed that the availability of financial resources is a key to innovation arguing that public organizations faced with resource scarcity will engage in maladaptive rather than innovative behavior.

This research demonstrated that city governments are more aptly characterized as financial resource-driven innovators, whose innovative decision-making is highly determined by city institutional environments and form of city government, in particular. This suggests that, while examples exist that during the times of fiscal scarcity experiencing the need to intervene quickly local governments resorted to new forms of activity (e.g. expenditure cuts, additional revenue collection), most likely, these actions were taken as a result of political decisions made by city governments and served primarily to alleviate fiscal difficulty and/or improve current economic situation. Decisions about implementing longer term innovations (those that may have varying degrees of implementation and are not regarded as onetime solutions for current problems) are made by cities in good fiscal health. Consequently, this

research findings are in line with the arguments of Bozeman and Slusher (1979), who acknowledged that the availability of financial resources is a key to innovation.

Second, because government characteristics have their impact on government decision making (Frederickson and Johnson, 2001; Elkins, 1995), it was important to consider how city government features play into the dynamics of innovation implementation decision-making. Traditionally, the public administration research analyzed government form almost exclusively from the two-form-of-government perspective - major-council and council-manager, where major-council form of government was regarded as more favorable to entrepreneurial innovation then council-manager form. The use of Frederikson's et al. (2004) five-category classification of city governments in this study revealed similar results - political form of government (i.e. the one based on mayor-council statutory form) has the most significant effect on the scope of city innovation implementation. Therefore, the arguments presented by recent public administration research that cities with administrative form of government are more favorable to such resource- and administrative skill-driven innovation as performance measurement are not supported. This represents an important step in the systematic analysis of the relationship between government characteristics and its political decision-making.

The findings of this research are also in line with earlier public administration and performance measurement scholarly literature that emphasizes the importance of the following three main characteristics of local governments for successful implementation of performance measurement innovation: 1) resource availability to support the introduction of new idea or change (Berman and Wang 2000; Jordan and Hackbart 1999); 2) existing environment for change and flexibility in the implementation of novel practices (which comes in with higher degree of local government autonomy) (Sreib and Willoughby, 2004); and 3)

sustained government leadership that supports a culture of change (Melkers and Willoughby, 1998; 2005).

In this way, the current study does not only contribute to public administration, finance and innovation literature by explaining the multidimensionality of the relationship between government fiscal health and its degree of innovation but also to adds to our understanding of the role of intergovernmental institutional arrangements and individual governments' structural differences in the process of innovative policy making.

## C. Validity and Future Research

As with all research, the results of this study should be evaluated in terms of several limitations that will need to be addressed by future research. Many of these limitations pertain to the fiscal health and innovation data collection. The dependent variable of this research model (innovation scope) was built using GFOA national survey data offering a good alternative for the assessment of the degree of innovativeness of city governments. This variable construction could be improved by a purposefully designed survey questionnaire. For instance, a more innovation-phenomenon adjusted set of survey questions (instead of only PM system oriented) could help to collect more exact information about the specifics of city innovation process. To the degree that the interviewed city officials did not consider PM system implementation as innovation the collected as a result of the GFOA survey data may not reflect "the state of the art" of innovation in these governments. Another important point is that using a set of survey questions that would allow for a more sophisticated statistical analysis of the data (e.g. including Lickert scale type of questions) and refinement of the dependent variable measure could help to capture more accurately the scope of cities innovation and to make the research findings even more valuable. The researchers should be

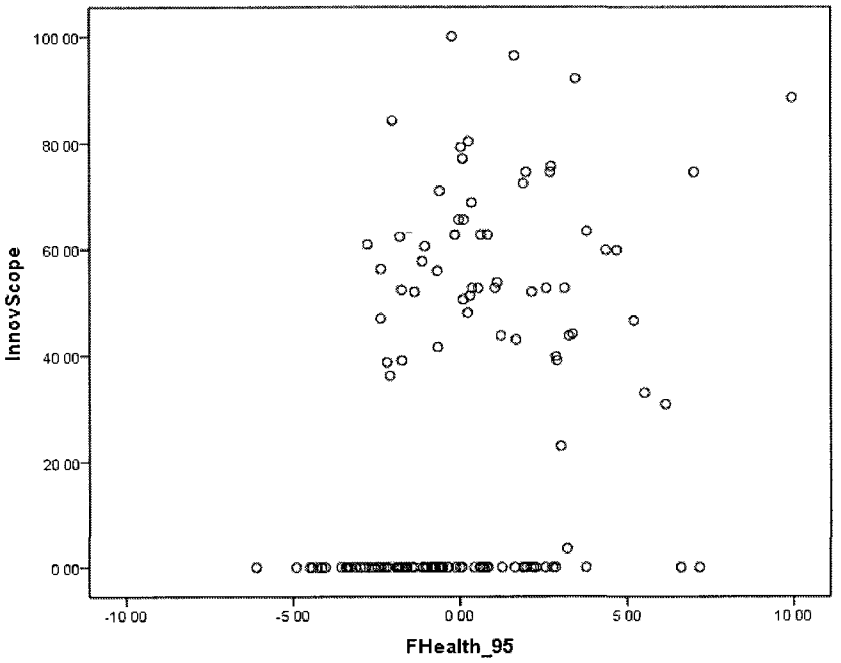
mindful that, given the diversity of government policy areas and the variety of their characteristics, measuring innovation in general across all policy domains represents an unfeasible task. For that reason, it is important to meticulously delineate the concept of innovation for any separate academic inquiry and design the definition-delimited measure of innovation building on the appropriately collected data.

Another limitation of this study concerns operationalization of the fiscal slack variable. Relying on the existing theories that explain the importance of fiscal slack (or excessive pool of internal resources available to a government beyond those necessary to meet its immediate requirements) this study included fiscal slack (defined in its budgetary terms) as a separate variable into the model in order to examine the effect these resources may have on the scope of city innovation. Yet, slack can be also considered in organizational terms and include - except for financial - human and physical resources of an organization (Wolman 1986). Defining slack in organizational terms and examining its effect on city innovation could possibly reveal new dynamics in the relationship and provide new and deeper insights to our understanding of the variation in the strength of the liaison between city fiscal health and innovation.

The future research could, therefore, focus on the study of variations in the characteristics of local government innovation as well as on economic, political, and institutional differences of city environments that create or hamper innovative policy initiatives. This research could assist in answering the remaining questions about key influential factors of innovation implementation in U.S. local governments.

# APPENDIX A. Relationship between Fiscal Health and Innovation in American Cities

*Scatterplot*




**Correlations**

| | | InnovScope | FHealth_95 |
|---|---|---|---|
| InnovScope | Pearson Correlation | 1 | .360** |
| | Sig (2-tailed) | | 000 |
| | N | 140 | 140 |
| FHealth_95 | Pearson Correlation | .360** | 1 |
| | Sig (2-tailed) | .000 | |
| | N | 140 | 140 |

**. Correlation is significant at the 0.01 level (2-tailed).

## APPENDIX B. Variables Description

A database containing 108 dichotomous and scale variables was created for 140 cities - population 25,000 to 200,000 - in eight U.S. states. All financial indicators were calculated separately for the years of 1995, 2000, and unless indicated otherwise represent totals for all governmental funds. The source for most of the financial data is the City Government Finances Data from the U.S. Census Bureau for Governments - FY 1995, 2000, 2005. Socioeconomic and demographic data are from the U.S. Census Bureau for the corresponding years. Equalized assessed value (EAV) data are from the Government Financial Officers Association's (GFOA) Financial Excellence Database and individual cities financial documents. Performance Measurement data are from the GFOA's 2004 National Survey on Performance Measurement (PM) Implementation.

**Revenue Wealth**: sum of *z* scores of the three below indicated variables for three different periods in time - for the fiscal years 1995, 2000, and 2005.

*IncCap* - per capita personal income
*EAVsqM* - EAV per square mile (EAV/square miles)
*SalePC* - sales receipts per capita (sales receipts/population)

**Spending needs**: contains three variables calculated for the fiscal years 1995, 2000, and 2005.
*rMedAgeH* - reverse median age of housing: 2004 – median age of house, 2001 (median year structure built, Census). Age of housing is often used to measure infrastructure and public works maintenance needs (Clark and Ferguson 1983) - the older is the housing unit, the higher are its maintenance costs.
*Crime* - crime rate per 1,000 population (number of serious crimes/1,000 population)
*rDens* - reverse population density (population/square miles)*(-1). Population density is regarded as an attribute of public works spending needs. Population density measures the economies of scale for service delivery: the higher the population density, the lower the cost of public service delivery (Berne and Schram 1986). Population density is reversed for convenience in spending needs calculation.

Similar to the wealth, the spending need measure is created by converting the component variables into *z* values and then summing the values.

**Fiscal Health Index:** created for each individual city by subtracting Spending Needs from Revenue Wealth values. Higher values indicate better fiscal health of a government.
*FHealth_95* - fiscal health index in 1995
*FHealth_00* - fiscal health index in 2000
*ChangeFH* – rate of change in fiscal health index for years 1995-2000

**Slack**: higher values indicate more slack resources availability in a government.
Fiscal slack measure combines two indicators of surplus resources – percentage unreserved and reserved fund balance of total expenditures - in a government. The measure of slack is computed by converting the four component variables into *z* values and summing the values.
*Slack_95* – slack in 1995

*Slack_00* – slack in 2000
*ChangeSLACK* – rate of change in slack for years 1995-2000.

**The Scope of Innovation Index** ***(InnovScope)*** was developed as a result of factor analysis that allowed for condensing the variance in the answers to 60 survey questions to 15 distinct factors that reflect city government performed functions. 10 of these factors with positive loading are presented by Formal Review, Accountable Executive, Scorecard, Bench Targets, Bench Time, Standard Measures, Share Data, Budget Process, Budget Doc, and LinktoSP variables that were combined into a single scale based on factor loading. Please refer to "The Summary of Theoretical Bases for the Scope of Innovation Score" Table 1 of this study for variables selection and coding information.

**Other Variables and Indicators**

Home Rule Functional *(HR_Funct)*: 0 = no home rule; 1 = home rule status granted

**TELs** (*TELs*)

cities with no property or general TELs = 3 (the highest level of local autonomy)
cities with a non-binding property tax limit in place = 2
cities with a potentially binding property tax limit in place (either a levy limit, or a combination tax rate-assessment limit(s) = 1
cities with both a potentially binding property tax limit and a general revenue or expenditure limit = 0 (the lowest level of local autonomy)

**GovtType**

five major forms of the US city government are coded as follows:

- political (or classical mayor-council) = 1 (very unfavorable)
- adapted-political = 2 (unfavorable)
- conciliated (*or* adapted) = 3 (medium favorability)
- adapted-administrative = 4 (less favorable )
- administrative = 5 (very favorable to innovation).

The variable ***GovtType*** was recoded into 4 dummy variables **adpolitical, adapted, adadministrative, administrative**

**GovSize** = number of employees in city administration

**Own-source revenue per capita** (ownrevpc_95) for fiscal year 1995 = money collected by state and local governments from their own sources such as taxes, fees, special assessments, tuition, and all other general sources except federal transfers.

**Population:** population in FY 1995.

## APPENDIX C. Main Variables Descriptive Statistics and Correlations

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| PM_USE | 140 | 0 | 1 | 48 | 501 |
| InnovScope | 140 | 00 | 100 00 | 23 4419 | 30 64050 |
| FiscAuthor | 140 | 1 | 3 | 2 13 | 687 |
| TELs | 140 | 0 | 3 | 1 37 | 771 |
| HR_Funct | 140 | 0 | 1 | 69 | 463 |
| GovSize | 140 | 245 | 11842 | 1549 79 | 1422 999 |
| Popul_95 | 140 | 19476 | 192781 | 66774 33 | 37063 733 |
| Popul_00 | 140 | 25233 | 193571 | 73778 39 | 38891 830 |
| Inc/Cap_95 | 140 | 6284 | 27946 | 14070 16 | 3398 772 |
| Inc/Cap_00 | 140 | 9762 | 42166 | 20886 05 | 5515 136 |
| EAVsqM_95 | 140 | 00 | 449576 15 | 101899 0317 | 82494 64138 |
| SalePC_95 | 140 | 00 | 630 62 | 152 0221 | 148 21609 |
| SalePC_00 | 140 | 00 | 960 19 | 195 1178 | 189 77732 |
| rMedAgeH_95 | 140 | 12 | 56 | 30 24 | 9 816 |
| rMedAgeH_00 | 140 | 10 | 60 | 30 51 | 10 824 |
| Crime_95 | 140 | 1883 | 14019 | 7563 73 | 2905 652 |
| Crime_00 | 140 | 1552 50 | 15182 90 | 5947 7379 | 2455 92463 |
| rDenc_95 | 140 | -14019 | -1883 | -7563 73 | 2905 652 |
| rDenc_00 | 140 | -15182 90 | -1552 50 | -5947 7379 | 2455 92463 |
| RevWeInd_95 | 140 | -3 89 | 9 30 | 0004 | 2 16930 |
| RevWeInd_00 | 140 | -3 39 | 8 59 | 0000 | 2 26924 |
| Need_95 | 140 | -1 86 | 2 62 | - 0001 | 99945 |
| Need_00 | 140 | -1 89 | 2 72 | - 0004 | 99973 |
| FHealth_95 | 140 | -6 10 | 9 94 | - 0002 | 2 65062 |
| FHealth_00 | 140 | -5 47 | 9 10 | 0003 | 2 78225 |
| ChangeFH | 140 | -2810 00 | 2850 00 | -36 7746 | 424 43473 |
| Slack_95 | 140 | - 72 | 5 00 | - 0360 | 93802 |
| Slack_00 | 140 | - 66 | 4 09 | - 0521 | 82080 |
| ChangeSlack | 140 | -1900 00 | 2900 00 | 6454 | 348 05672 |
| admindum | 140 | 00 | 1 00 | 1214 | 32780 |
| adadmindum | 140 | 00 | 1 00 | 5857 | 49437 |
| adaptdum | 140 | 00 | 1 00 | 0786 | 27003 |
| adpolitdum | 140 | 00 | 1 00 | 0500 | 21873 |
| Valid N (listwise) | 140 | | | | |

# Correlations

**Correlations**

| | | ChangeSlack | FiscAuthor | TELs | HR_Funct | GovSize | admindum |
|---|---|---|---|---|---|---|---|
| PM_USE | Pearson Correlation | -.024 | .008 | -.072 | -.044 | -.110 | .038 |
| | Sig (2-tailed) | .778 | .925 | .396 | .605 | .198 | .657 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| InnovScope | Pearson Correlation | -.023 | .015 | .060 | -.124 | -.129 | .055 |
| | Sig (2-tailed) | .789 | .860 | .483 | .143 | .130 | .521 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| FHealth_95 | Pearson Correlation | -.074 | .090 | -.249** | -.109 | -.049 | .250** |
| | Sig (2-tailed) | .388 | .291 | .003 | .200 | .568 | .003 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| FHealth_00 | Pearson Correlation | -.101 | -.045 | -.232** | -.118 | -.090 | .281** |
| | Sig (2-tailed) | .234 | .594 | .006 | .164 | .293 | .001 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| ChangeFH | Pearson Correlation | .011 | .014 | -.034 | -.011 | -.009 | -.036 |
| | Sig (2-tailed) | .900 | .873 | .691 | .901 | .913 | .674 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| Slack_95 | Pearson Correlation | -.005 | -.067 | -.117 | -.037 | -.112 | .115 |
| | Sig (2-tailed) | .951 | .431 | .170 | .668 | .187 | .175 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| Slack_00 | Pearson Correlation | .083 | -.123 | -.163 | -.087 | -.156 | .155 |
| | Sig (2-tailed) | .332 | .147 | .054 | .307 | .065 | .067 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| ChangeSlack | Pearson Correlation | 1 | .108 | -.141 | .082 | .046 | -.020 |
| | Sig (2-tailed) | | .205 | .096 | .334 | .585 | .818 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| FiscAuthor | Pearson Correlation | .108 | 1 | -.267** | -.033 | -.046 | .122 |
| | Sig (2-tailed) | .205 | | .001 | .696 | .588 | .152 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| TELs | Pearson Correlation | -.141 | -.267** | 1 | -.262** | -.002 | -.151 |
| | Sig (2-tailed) | .096 | .001 | | .002 | .981 | .075 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| HR_Funct | Pearson Correlation | .082 | -.033 | -.262** | 1 | .133 | -.274** |
| | Sig (2-tailed) | .334 | .696 | .002 | | .117 | .001 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| GovSize | Pearson Correlation | .046 | -.046 | -.002 | .133 | 1 | -.080 |
| | Sig (2-tailed) | .585 | .588 | .981 | .117 | | .346 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| admindum | Pearson Correlation | -.020 | .122 | -.151 | -.274** | -.080 | 1 |
| | Sig (2-tailed) | .818 | .152 | .075 | .001 | .346 | |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| adadmindum | Pearson Correlation | -.050 | -.393** | .142 | .194* | .026 | -.442** |
| | Sig (2-tailed) | .556 | .000 | .093 | .021 | .765 | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| adaptdum | Pearson Correlation | -.051 | -.016 | .135 | .079 | .025 | -.109 |
| | Sig (2-tailed) | .551 | .851 | .111 | .351 | .766 | .202 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |
| adpolitdum | Pearson Correlation | -.026 | .148 | -.111 | .082 | -.004 | -.085 |
| | Sig (2-tailed) | .765 | .080 | .192 | .337 | .963 | .316 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 |

** Correlation is significant at the 0 01 level (2-tailed)
* Correlation is significant at the 0 05 level (2-tailed)

| | | PM_USE | InnovScope | FHealth_95 | FHealth_00 | ChangeFH | Slack_95 | Slack_00 |
|---|---|---|---|---|---|---|---|---|
| PM_USE | Pearson Correlation | 1 | .801** | .405** | .379** | -.065 | 060 | .101 |
| | Sig (2-tailed) | | .000 | .000 | .000 | .442 | .481 | .235 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| InnovScope | Pearson Correlation | .801** | 1 | .360** | .356** | -.195* | .100 | .097 |
| | Sig (2-tailed) | .000 | | .000 | .000 | .021 | .241 | .254 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| FHealth_95 | Pearson Correlation | .405** | .360** | 1 | .920** | .000 | .167* | .269** |
| | Sig (2-tailed) | .000 | .000 | | .000 | .998 | .049 | .001 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| FHealth_00 | Pearson Correlation | .379** | .356** | .920** | 1 | .083 | .187* | .264** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Sig (2-tailed) | .000 | .000 | .000 | | .331 | .027 | .002 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| ChangeFH | Pearson Correlation | -.065 | -.195* | .000 | .083 | 1 | .030 | -.037 |
| | Sig (2-tailed) | .442 | .021 | .998 | .331 | | .722 | .660 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Slack_95 | Pearson Correlation | .060 | .100 | .167* | .187* | .030 | 1 | .677** |
| | Sig (2-tailed) | .481 | .241 | .049 | .027 | .722 | | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Slack_00 | Pearson Correlation | .101 | .097 | .269** | .264** | -.037 | .677** | 1 |
| | Sig (2-tailed) | .235 | .254 | .001 | .002 | .660 | .000 | |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| ChangeSlack | Pearson Correlation | -.024 | -.023 | -.074 | -.101 | .011 | -.005 | .083 |
| | Sig (2-tailed) | .778 | .789 | .388 | .234 | .900 | .951 | .332 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| FiscAuthor | Pearson Correlation | .008 | .015 | .090 | -.045 | .014 | -.067 | -.123 |
| | Sig (2-tailed) | .925 | .860 | .291 | .594 | .873 | .431 | .147 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| TELs | Pearson Correlation | -.072 | .060 | -.249** | -.232** | -.034 | -.117 | -.163 |
| | Sig (2-tailed) | .396 | .483 | .003 | .006 | .691 | .170 | .054 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| HR_Funct | Pearson Correlation | -.044 | -.124 | -.109 | -.118 | -.011 | -.037 | -.087 |
| | Sig (2-tailed) | .605 | .143 | .200 | .164 | .901 | .668 | .307 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| GovSize | Pearson Correlation | -.110 | -.129 | -.049 | -.090 | -.009 | -.112 | -.156 |
| | Sig (2-tailed) | .198 | .130 | .568 | .293 | .913 | .187 | .065 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| admindum | Pearson Correlation | .038 | .055 | .250** | .281** | -.036 | .115 | .155 |
| | Sig (2-tailed) | .657 | .521 | .003 | .001 | .674 | .175 | .067 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| adadmindum | Pearson Correlation | -.036 | -.081 | -.056 | -.012 | .061 | .016 | .064 |
| | Sig (2-tailed) | .672 | .339 | .508 | .892 | .473 | .852 | .455 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| adaptdum | Pearson Correlation | .039 | .039 | -.119 | -.164 | -.030 | -.013 | -.068 |
| | Sig (2-tailed) | .646 | .646 | .161 | .053 | .728 | .875 | .422 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| adpolitdum | Pearson Correlation | .108 | .167* | .020 | .022 | -.093 | -.047 | -.097 |
| | Sig (2-tailed) | .203 | .049 | .813 | .797 | .274 | .579 | .253 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 |

** Correlation is significant at the 0 01 level (2-tailed)
* Correlation is significant at the 0 05 level (2-tailed)

**Correlations**

| | | adadmindum | adaptdum | adpolitdum |
|---|---|---|---|---|
| PM_USE | Pearson Correlation | -.036 | .039 | .108 |
| | Sig (2-tailed) | .672 | .646 | .203 |
| | N | 140 | 140 | 140 |
| InnovScope | Pearson Correlation | -.081 | .039 | .167* |
| | Sig (2-tailed) | .339 | .646 | .049 |
| | N | 140 | 140 | 140 |
| FHealth_95 | Pearson Correlation | -.056 | -.119 | .020 |
| | Sig (2-tailed) | .508 | .161 | .813 |
| | N | 140 | 140 | 140 |
| FHealth_00 | Pearson Correlation | -.012 | -.164 | .022 |
| | Sig (2-tailed) | .892 | .053 | .797 |
| | N | 140 | 140 | 140 |
| ChangeFH | Pearson Correlation | .061 | -.030 | -.093 |
| | Sig (2-tailed) | .473 | .728 | .274 |
| | N | 140 | 140 | 140 |
| Slack_95 | Pearson Correlation | .016 | -.013 | -.047 |
| | Sig (2-tailed) | 852 | .875 | .579 |
| | N | 140 | 140 | 140 |
| Slack_00 | Pearson Correlation | .064 | -.068 | -.097 |
| | Sig (2-tailed) | .455 | .422 | .253 |
| | N | 140 | 140 | 140 |
| ChangeSlack | Pearson Correlation | -.050 | -.051 | -.026 |
| | Sig (2-tailed) | .556 | .551 | .765 |
| | N | 140 | 140 | 140 |
| FiscAuthor | Pearson Correlation | -.393** | -.016 | .148 |
| | Sig (2-tailed) | .000 | .851 | .080 |
| | N | 140 | 140 | 140 |
| TELs | Pearson Correlation | .142 | .135 | -.111 |
| | Sig (2-tailed) | .093 | .111 | .192 |

| | | | | |
|---|---|---|---|---|
| | N | 140 | 140 | 140 |
| HR_Funct | Pearson Correlation | .194* | .079 | .082 |
| | Sig (2-tailed) | .021 | .351 | .337 |
| | N | 140 | 140 | 140 |
| GovSize | Pearson Correlation | .026 | .025 | -.004 |
| | Sig (2-tailed) | .765 | .766 | .963 |
| | N | 140 | 140 | 140 |
| admindum | Pearson Correlation | -.442** | -.109 | -.085 |
| | Sig (2-tailed) | .000 | .202 | .316 |
| | N | 140 | 140 | 140 |
| adadmindum | Pearson Correlation | 1 | -.347** | -.273** |
| | Sig (2-tailed) | | .000 | .001 |
| | N | 140 | 140 | 140 |
| adaptdum | Pearson Correlation | -.347** | 1 | -.067 |
| | Sig (2-tailed) | .000 | | .432 |
| | N | 140 | 140 | 140 |
| adpolitdum | Pearson Correlation | -.273** | -.067 | 1 |
| | Sig (2-tailed) | .001 | .432 | |
| | N | 140 | 140 | 140 |

** Correlation is significant at the 0 01 level (2-tailed)
* Correlation is significant at the 0 05 level (2-tailed)

# APPENDIX D. Index of Fiscal Health: Summary Statistic of the Composite Variables

**Descriptive Statistics – FY 1995 data**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Inc/Cap_95 | 140 | 6284 | 27946 | 14070.16 | 3398.772 |
| EAVsqM_95 | 140 | .00 | 449576 15 | 101899.0317 | 82494.64138 |
| SalePC_95 | 140 | .00 | 630.62 | 152.0221 | 148.21609 |
| rMedAgeH_95 | 140 | 12 | 56 | 30.24 | 9 816 |
| Crime_95 | 140 | 1883 | 14019 | 7563.73 | 2905.652 |
| rDens_95 | 140 | -14019 | -1883 | -7563.73 | 2905.652 |
| Zscore: Inc/Cap_95 | 140 | -2.29 | 4.08 | .0000 | 1.00000 |
| Zscore(EAVsqM_95) | 140 | -1 24 | 4.21 | .0000 | 1.00000 |
| Zscore(SalePC_95) | 140 | -1.03 | 3.23 | .0000 | 1.00000 |
| Zscore(rMedAgeH_95) | 140 | -1.86 | 2.62 | 0000 | 1.00000 |
| Zscore(Crime_95) | 140 | -1.96 | 2.22 | .0000 | 1.00000 |
| Zscore(rDenc_95) | 140 | -2.22 | 1.96 | .0000 | 1.00000 |
| RevWeInd_95 | 140 | -3.89 | 9.30 | 0004 | 2 16930 |
| Need_95 | 140 | -1.86 | 2.62 | -.0001 | .99945 |
| FHealth_95 | 140 | -6.10 | 9.94 | -.0002 | 2 65062 |
| Valid N (listwise) | 140 | | | | |

**Descriptive Statistics – FY 2000 data**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Inc/Cap_00 | 140 | 9762 | 42166 | 20886.05 | 5515.136 |
| EAVsqM_00 | 140 | .00 | 733936.18 | 130573.6948 | 1.28250E5 |
| SalePC_00 | 140 | 00 | 960.19 | 195.1178 | 189.77732 |
| rMedAgeH_00 | 140 | 10 | 60 | 30.51 | 10.824 |
| Crime_00 | 140 | 1552.50 | 15182 90 | 5947.7379 | 2455 92463 |
| rDens_00 | 140 | -15182.90 | -1552 50 | -5947.7379 | 2455.92463 |
| Zscore. Inc/Cap_00 | 140 | -2 02 | 3.86 | .0000 | 1.00000 |
| Zscore EAVsqM_95 | 140 | -1.02 | 4.70 | .0000 | 1 00000 |
| Zscore(SalePC_00) | 140 | -1.03 | 4.03 | .0000 | 1.00000 |
| Zscore(rMedAgeH_00) | 140 | -1.89 | 2.72 | .0000 | 1 00000 |
| Zscore(Crime_00) | 140 | -1 79 | 3.76 | 0000 | 1.00000 |
| Zscore(rDenc_00) | 140 | -3.76 | 1 79 | .0000 | 1 00000 |
| RevWeInd_00 | 140 | -3.39 | 8.59 | .0000 | 2.26924 |
| Need_00 | 140 | -1 89 | 2 72 | -.0004 | 99973 |
| FHealth_00 | 140 | -5.47 | 9.10 | .0003 | 2 78225 |
| Valid N (listwise) | 140 | | | | |

**APPENDIX E. Strength and Weaknesses of the Existing Systems of City Fiscal Health Measurement**

| Measures | Description | Weaknesses |
|---|---|---|
| **Congressional Budget Office (1978)** | Urban Need Index<br>was created as a result of factor analysis of 20 direct indicators of community development need classified into three following dimensions – Age and Decline, Density, and Poverty | - the use of the three determining dimensions of urban need (density, poverty, age and decline) is judgmental - no theoretical basis or empirical evidence is provided by the study to justify this choice;<br>- the measure does not contain any financial data or indicators that could communicate community need in financial terms;<br>- the measure double counts some variables, the index appears to be complex and confusing for practical application. |
| **Howell and Stamm (1979)** | Urban Fiscal Stress<br>examines municipal finances based on data from 66 U.S. cities (population 50,000 - 1,000,000) and developed as a standardized accounting format that allows for a comparison of fiscal conditions of the cities | - the sample is not large and representative enough to draw any general conclusions about the determinants of fiscal condition of American cities<br>- most economic variables are not presented in the measure;<br>- the use of population density as the only control variable for structural differences among cities in functional responsibilities and financial arrangements is inadequate. |
| **Clark and Ferguson (1983)** | Defines fiscal condition as the extent to which a government has achieved a state of balance with its fiscal environment:<br>City wealth index<br>Financial performance index | - per capita measures distort the picture in highly commercial or industrial municipalities;<br>- does not account for significant levels of own-source revenues from sales taxes;<br>- comparing fiscal situation of different communities is hardly possible based on this measure as the tax base structure of the U.S. localities vary greatly. |

| | | |
|---|---|---|
| **Ladd and Yinger (1989)** | A measure of a need-capacity gap defined as the gap between the expenditure need and the revenue-raising capacity of a government. Estimates fiscal capacity as the amount of revenue that would be generated if residents were taxed at a rate equal to the average tax burden in the region, supplemented by revenue generated from taxes exported to nonresidents<br>Is an objective measure of the structural fiscal problems faced by local governments; allows for comparing cities and their suburbs | - using per capita income as a measure of revenue raising capacity fails to reflect the specifics of local governments' revenue raising capabilities:<br>- does not capture individual variations in residents' incomes;<br>- does not reflect the difference in tax policies regarding exported taxes<br>- focuses on factors that are generally outside the immediate control of local government<br>- data collection difficulty |
| **Hendrick (2004)** | Composite Index of Fiscal Health is a multi-dimensional index of fiscal health that accounts for socioeconomic, fiscal and institutional structure of the cities, as well as for their fiscal and environmental balance.<br>The author refers to fiscal health as "the ability of government to meet its financial and service obligations."<br>The analyzed dimensions of factors that affect fiscal health to variable degrees include: environmental indicators, balance of fiscal structure with environment, and fiscal structure of a government. | - high degree of complexity of the measures and their calculation: while high quality statistical exercise can serve as an exemplary analysis for public finance scholars, local government officials could hardly apply this methodology in their assessments;<br>- obtaining certain financial and economic data for local governments - such as equalized assessed value (EAV), percent of fund balance, capital expenditures, or enterprise fund - is a challenging task;<br>- the study focuses exclusively on Chicago suburban governments that represent one regional economy - thus, some homogeneity in their structural and institutional characteristics exists which affects generalizability of findings |

## APPENDIX F. List of Implemented Tax and Expenditure Limitations

| # | STATE | YEAR | SOURCE | | BASE | GROWTH RESTRICTION | LIMIT APPROVAL METHOD |
|---|---|---|---|---|---|---|---|
| 1 | AK | 1982 | Con | Alaska Const. art. IX, § 16 | Exp | Annual Population growth plus Inflation | Leg. Amend. |
| 2 | AZ | 1978 | Con | A.R.S. Const. Art. IX, § 17 | Exp | Personal Income (7% -7.41% of PI) | Leg. Amend. |
| 3 | CA[a] | 1979<br>1991 | Con | Cal Const, Art. XIII B | Exp | Annua. Population growth plus Inflation<br>Personal Income (*Annual growth*) | Initiative (DA)<br>Leg. Amend. |
| 4 | CO | 1977<br>1991 | Stat | C.R.S. 24-75-201.1 | Exp | General Fund Growth (7%)<br>General Fund Growth (6%) | Leg. Vote<br>Leg. Vote |
| 5 | | 1992 | Con | Colo. Const. Art. X. Section 20 | Rev | Annua. Population growth plus Inflation | Initiative (DA) |
| 6 | CT | 1991<br>1992 | Stat<br>Con | Conn. Gen. Stat. § 2-33a<br>Conn. Const Amend. Art. XXVIII | Exp | Personal Income(5 yr. *average*) | Leg. Vote<br>Leg. Amend. |
| 7 | DE | 1980 | Con | Del. Const. art VIII, § 6 | App. | Revenue estimate(98% *of Est. Rev*) | Leg. Amend. |
| 8 | FL | 1994 | Con | Fla. Const. Art. VII, § 1 | Rev | Personal Income (5 yr. *average*) | Leg. Amend. |
| 9 | HI | 19-8 | Con &<br>Stat | HRS Const. Art. VII, § 9<br>HRS § 37-92 | Exp | Personal Income (3 yr. *average*) | Leg. Amend. |
| 10 | IA | 1992 | Stat | Iowa Code § 8.54 | App. | Revenue estimate (99% *of Est. Rev*) | Leg. Vote |
| 11 | ID | 1980 | Stat | Idaho Code § 67-6803 | Exp | Personal Income(5.33% - 6.6161% of PI) | Leg. Vote |
| 12 | IN | 2004 | Stat | Burns Ind. Code Ann. § 4-10-21 | Exp | Personal Income (6 yr. *average*) | Leg. Vote |
| 13 | LA[a] | 19-9-01 | Stat | La. R.S. 47:5061 to 5010. [Repealed.] | Rev | Personal Income | Leg. Vote |
| 14 | | 1993 | Con | La. Const. Art. VII, § 1 | Exp | Personal Income (3 yr. *average*) | Leg. Amend. |

[a] **Con** = Constitutional; **Stat** = Statutory; **Rev**= Revenues; **Exp**= Expenditures; **App**= Appropriations on Revenue Estimate; **Leg. Amend**= Legislative Amendment; **Leg. Vote**= Legislative Vote; **Initiative (IDS)** =Indirect Statutory Initiative; **Initiative (DA)** = Direct Constitutional Initiative; **Initiative (DS)** = Direct Statutory Initiative; **Con & Stat**= Constitutional with additional statutory provisions

(Continued on the next page)

| # | STATE | YEAR | SOURCE | | BASE | GROWTH RESTRICTION | LIMIT APPROVAL METHOD |
|---|---|---|---|---|---|---|---|
| 15 | MA | 1986 | Stat | ALM GL ch. 62F, § 1-8 | Rev | Personal Income (*3 yr. average*) | Initiative (IDS) |
| 16 | ME | 2005 | Stat | 5 M.R.S § 1534 | Exp | Personal Income (*3 yr. average*) | Leg. Vote |
| 17 | MI | 1978 | Con | MCLS Const. Art. IX, § 25-34 | Rev | Personal Income (9.49% of PI) | Initiative (DA) |
| 18 | MO | 1980 | Con | Mo. Const. Art. X, § 17-20 | Rev | Personal Income (5.6395% of PI) | Initiative (DA) |
| 19 | MS | 1982 | Stat | Miss. Code Ann. § 27-103-125 | App. | Revenue estimate(*98% of Est. Rev*) | Leg. Vote |
| 20 | MT | 1981 | Stat | Mont. Code Anno. § 17-8-106 | Exp | Personal Income (*3 yr. average*) | Leg. Vote |
| 21 | NC | 1991 | Stat | N.C. Gen. Stat. § 143C-4-6 | Exp | Personal Income 7% of PI) | Leg. Vote |
| 22 | NJ | 1992 | Stat | N.J. Stat. § 52:9H | Exp | Personal Income (*4 yr. average*) | Leg. Vote |
| 23 | NV | 1979 | Stat | Nev. Rev. Stat. Ann. § 353.213 | Exp | Annual Population growth plus Inflation | Leg. Vote |
| 24 | OH | 2007 | Stat | ORC Ann. 107.032 -035 | Exp | Annual Population growth plus Inflation | Leg. Vote |
| 25 | OK[h] | 1985 | Con | Okl. Const. Art. X § 23 | App. | Revenue estimate(*95% of Est. Rev*) | Leg. Amend. |
| 26 | OR[i] | 1979<br>2001 | Stat | ORS § 291.355 [Renumbered] ORS § 291.357 | Exp | Personal Income(*2 yr. average*)<br>Personal Income(8% of PI) | Leg. Vote<br>Leg. Vote |
| 27 | RI | 1992 | Con | R.I. Const. Art. IX. § 16<br>R.I Gen. Laws § 35-3-20.1 | App. | Revenue estimate (*98% of Est. Rev*) | Leg. Amend. |
| 28 | SC | 1980<br>1984 | Con & Stat | S.C Const. Ann. Art. X § 7<br>& S.C. Code Ann. § 11-11-410 | Exp | Personal Income (*3 yr. average*) | Leg. Amend. |
| 29 | TN | 1978 | Con & Stat | Tenn. Const. Art. II § 24<br>Tenn. Code Ann. § 9-4-5201-5203 | Exp | Personal Income (*Annual Growth*) | Leg. Amend. |
| 30 | TX | 1978 | Con & Stat | Tex. Const. Art. VIII. § 22<br>& Tex. Gov't Code § 316.001 | Exp | Personal Income (*2yr. average*) | Leg. Amend. |
| 31 | UT[j] | 1988<br>2004 | Stat | Utah Code Ann. § 63-38c-101-301 | Exp | Personal Inc. + Population growth + Inflation<br>Annual Population growth plus Inflation | Leg. Vote<br>Leg. Vote |

(Continued on the next page)

| # | STATE | YEAR | SOURCE | | BASE | GROWTH RESTRICTION | LIMIT APPROVAL METHOD |
|---|---|---|---|---|---|---|---|
| 32 | WA[g] | 1979<br>1993<br>2007 | Stat | Rev. Code Wash. (ARCW) § 43.135.030<br>Rev. Code Wash. (ARCW) § 43.135.025 | Rev<br>Exp<br>Exp | Personal Income Growth (*3 yr. average*)<br>Population plus Inflation (*3 yr. average*))<br>Personal Income Growth (*10 yr. average*) | Initiative (IDS)<br>Initiative (DS)<br>Leg. Vote |
| 33 | WI | 2003 | Stat | Wis. Stat. § 13.40 | Exp | Personal Income (*Annual Growth*) | Leg. Vote |

**Source: Review of constitutional and statutory provisions**

## Notes to Table 1.1

[a] California's voter approved Proposition 111 changed the states appropriation limit from one of population plus inflation to one of per capita personal income growth plus changes in population. The limit also adjusted all expenditures related to K-12 and community colleges with an additional factor equal to the percentage change in the total statewide average daily attendance.

[b] Colorado has two limits – voter approved population growth plus inflation revenue limit and a statutory restriction on growth in general fund expenditures (0 percent). Prior to the state's 1991 statutory limit on general fund spending, the state had a 7 percent limit on growth in general fund spending in place since 1977.

[c] Connecticut's voter approved referenda is equivalent to their legislatively authorized TEL. The constitutional TEL requires that the General Assembly statutorily define the growth restriction – the state however, has never passed a vote defining the restriction by law. The constitutional limit has never been imposed.

[f] Louisiana has two limitations – a statutory revenue limit (1979) and an voter approved expenditure limit (1993). The statutory revenue limit was suspended in 2001.

[i] Oregon amended its 1979 personal income growth rate (based on personal income growth for the preceding two years) to a growth restriction that limits expenditures to be no greater than 8% of projected personal income in Oregon for the same biennium.

[j] Utah's statutory code "*placed limitations based upon the average changes in personal income and the combined changes in population and inflation*" (Section 03-38c-102). In 2004, the state amended its limitation to "*combined changes in population and inflation*".

[g] Washington initially had a revenue limit (enacted 1979) that had a fiscal growth factor of the state's three year average personal income growth that was replaced by an expenditure limit (1993) that was based on population growth plus population. In 2005 the state amended the fiscal growth factor for its expenditure limit to one based on the ten year average of personal income effective FY 2007.

[l] Oklahoma is the only state to limit appropriations in the next fiscal year to the amounts appropriated in the current year with adjustments for changes in price and an allowable growth in spending of 12 percent. Appropriations however cannot exceed 95 percent of estimated revenues.

Sources: Review of constitutional and statutory provisions, Rafool (1998) & Knight (2000), Waters (2003), Magleby (1984), Matsusaka (1995), and Initiative and Referendum Institute at www.iandrinstitute.org.

**APPENDIX G. Performance Measurement Implementation Questionnaire**

1. Do you use performance measures?
   If No: Why are you **not** using PM?
   If yes:
   What is the main purpose for measuring performance?
   Does performance measurement make a difference? (Scale 1 to 5)

2.How often do you look at performance measures data?
   - annually during budget
   - or more frequently

3. Are managers/departments held accountable for results to executive? - Do dept. manager need to explain high-way targets are not met and then work to develop strategies for improvements?

4. Are there defined categories in which performance measures are grouped? (e.g. Balanced Scorecard)
What are the categories?

5. Do you have a formal strategic plan that is regularly reviewed? (Cascading system)

6. What technology do you use to gather and organize performance data? (e.g. spreadsheets, other special program)

7. Do measures link to the strategic plan?

8. Do department goals/objectives fall under or align with organizational goals?

9. Do you use standard measures used by other jurisdictions? (e.g. benchmarking)

10. Do you share performance data with other jurisdictions?

11. What is the primary way you report data? (budget, strategic plan)

12. Describe your process for involving citizens in performance measurement?
   Do you have a means for soliciting citizen feedback (such as surveys, focus groups)?
   Do you involve citizens in developing measures?

13. What jurisdiction or government do you see as a leader in Performance Measurement?

14. What do you compare your performance data against?

15. Is there any element of elements of your performance measurement system that you're particularly proud of or think you do well?

16. Do you produce a separate performance report?

## APPENDIX H. City TELs Rating by State

| State | Tax and Expenditure Limit | Code |
|---|---|---|
| Alabama | Non-binding p-tax limit | 2 |
| Alaska | Potential binding p-tax limit | 1 |
| Arizona | Binding p-tax + general limit | 0 |
| Arkansas | Potential binding p-tax limit | 1 |
| California | Binding p-tax + general limit | 0 |
| Colorado | Binding p-tax + general limit | 0 |
| Connecticut | No TELs | 3 |
| Delaware | No TELs | 3 |
| Florida | Potential binding p-tax limit | 1 |
| Georgia | No TELs | 3 |
| Hawaii | No TELs | 3 |
| Idaho | Potential binding p-tax limit | 1 |
| Illinois | Potential binding p-tax limit | 1 |
| Indiana | Potential binding p-tax limit | 1 |
| Iowa | Potential binding p-tax limit | 1 |
| Kansas | Non-binding p-tax limit | 2 |
| Kentucky | Potential binding p-tax limit | 1 |
| Louisiana | Potential binding p-tax limit | 1 |
| Maine | Potential binding p-tax limit | 1 |
| Maryland | Non-binding p-tax limit | 2 |
| Massachusetts | Potential binding p-tax limit | 1 |
| Michigan | Potential binding p-tax limit | 1 |
| Minnesota | Potential binding p-tax limit | 1 |
| Mississippi | Potential binding p-tax limit | 1 |
| Missouri | Potential binding p-tax limit | 1 |
| Montana | Potential binding p-tax limit | 1 |
| Nebraska | Binding p-tax + general limit | 0 |
| Nevada | Binding p-tax + general limit | 0 |
| New Hampshire | No TELs | 3 |
| New Jersey | Binding p-tax + general limit | 0 |
| New Mexico | Potential binding p-tax limit | 1 |
| New York | Non-binding p-tax limit | 2 |
| North Carolina | Non-binding p-tax limit | 2 |
| North Dakota | Potential binding p-tax limit | 1 |
| Ohio | Potential binding p-tax limit | 1 |
| Oklahoma | Potential binding p-tax limit | 1 |
| Oregon | Potential binding p-tax limit | 1 |
| Pennsylvania | Potential binding p-tax limit | 1 |
| Rhode Island | Potential binding p-tax limit | 1 |
| South Carolina | No TELs | 3 |
| South Dakota | Potential binding p-tax limit | 1 |
| Tennessee | No TELs | 3 |

| | | |
|---|---|---|
| Texas | Non-binding p-tax limit | 2 |
| Utah | Non-binding p-tax limit | 2 |
| Vermont | No TELs | 3 |
| Virginia | No TELs | 3 |
| Washington | Potential binding p-tax limit | 1 |
| West Virginia | Potential binding p-tax limit | 1 |
| Wisconsin | Potential binding p-tax limit | 1 |
| Wyoming | Non-binding p-tax limit | 2 |

**APPENDIX I. Example of the Categories Used in 140 City Government s' Classification**[1]

| Forms of City Government | | | | |
|---|---|---|---|---|
| **Political** | **Adapted Political** | **Adapted (or Conciliated)** | **Adapted Administrative** | **Administrative** |
| Mayor directly elected | Mayor directly elected | Mayor directly elected or selected by the council | Mayor directly elected | Mayor selected by the council |
| No Chief Administrative Officer | Likely to have Chief Administrative Officer | Has Chief Administrative Officer | Has Chief Administrative Officer | Has Chief Administrative Officer |
| Mayor not on council | Mayor not on council | Mayor not on council | Mayor is on council | Mayor is on council |
| Mayor has veto power | Mayor has veto power | Mayor may have veto power | Mayor may have veto power | Mayor does not have veto power |
| Mayor full-time | Mayor full-time | Mayor full-time or part-time | Mayor is usually part-time | Mayor is part-time |
| Council full-time | Council full-time or part-time | Council full-time or part-time | Council is part-time | Council is part-time |
| Nonpartisan/partisan elections | Partisan/nonpartisan elections | Nonpartisan/partisan elections | Usually nonpartisan el. | Nonpartisan elections |
| Department heads report to mayor | Department heads report to mayor | Department heads report to CAO | Department heads report to CAO | Department heads report to CAO |
| Statutory charter form is mayor-council | Statutory charter form is likely to be mayor-council | Statutory charter form may be mayor-council or council-manager | Statutory charter form is likely to be council-manager | Statutory charter form is council-manager |

[1] Following Frederickson's et al.(2004)

## APPENDIX J. Form of Government Classification

| City | State | Gov Type | GT Code | Web |
|---|---|---|---|---|
| Arvada city | CO | adapt-admin | 4 | http://arvada.org/government/about-city-council/ |
| Boulder city | CO | administrative | 5 | http://www.bouldercolorado.gov |
| Broomfield city | CO | adapt-admin | 4 | http://www.broomfield.org/elections/2009CityCouncilCandidates.shtml |
| Englewood city | CO | administrative | 5 | http://www.ci.englewood.co.us/Index.aspx?page=101 |
| Fort Collins city | CO | administrative | 5 | http://www.fcgov.com/departments/ |
| Grand Junction city | CO | administrative | 5 | http://www.gjcity.org/CityDeptWebPages/Administration/CityManager/CityManager.htm |
| Greeley city | CO | adapt-admin | 4 | http://greeleygov.com/CityCouncil/default.aspx |
| Lakewood city | CO | administrative | 5 | http://www.lakewood.org/index.cfm?&include=/headlines/2009CityMgrSelected.cfm |
| Longmont city | CO | adapt-admin | 4 | http://www.ci.longmont.co.us/city_council/index.htm |
| Loveland city | CO | adapt-admin | 4 | http://www.ci.loveland.co.us/council/citycouncil.htm |
| Pueblo City | CO | adapt-admin | 4 | http://www.pueblo.us/cgi-bin/gt/tpl_page.html,template=1&content=15&nav1=1& |
| Thornton city | CO | adapt-admin | 4 | http://www.cityofthornton.net/ccnc/home.asp |
| Westminster city | CO | adapt-admin | 4 | http://www.ci.westminster.co.us/818.htm |
| Albany city | GA | adapt-admin | 4 | http://www.albany.ga.us/content/sitemap.aspx |
| Columbus city | GA | conciliated | 3 | http://www.columbusga.org/index3.htm |
| Dalton city | GA | adapt-admin | 4 | http://www.cityofdalton-ga.gov/index.php?option=com_content&view=article&id=46&Itemid=234 |
| East Point city | GA | political | 1 | http://www.eastpointcity.org/index.aspx?NID=31 |
| Gainesville city | GA | adapt-admin | 4 | http://www.gainesville.org/citycouncil.asp |
| LaGrange city | GA | administrative | 5 | http://www.lagrange-ga.org/ |
| Macon city | GA | conciliated | 3 | http://www.cityofmacon.net/citycouncil |
| Marietta city | GA | conciliated | 3 | http://www.mariettaga.gov/departments/council/default.aspx |
| Rome city | GA | administrative | 5 | http://www.romega.us/index.aspx?NID=8 |
| Savannah city | GA | adapt-admin | 4 | http://www.savannahga.gov/cityweb/SavannahGaGOV.nsf/mainportal/government?opendocument |
| Valdosta city | GA | adapt-admin | 4 | http://www.valdostacity.com/Index.aspx?page=51 |
| Warner Robins city | GA | political | 1 | http://www.municode.com/resources/gateway.asp?pid=11292&sid=10 |
| Aurora city | IL | political | 1 | http://www.aurora-il.org/aboutourcity.php |
| Berwyn city | IL | political | 1 | http://www.berwyn-il.gov/ |
| Bloomington city | IL | adapt-admin | 4 | http://www.cityblm.org/page.asp?show=section&id=2732 |
| Carbondale city | IL | adapt-admin | 4 | http://www.ci.carbondale.il.us/?q=node/11 |
| Champaign city | IL | ad-polit | 2 | http://ci.champaign.il.us/departments/city-manager/ |
| Decatur city | IL | adapt-admin | 4 | http://www.ci.decatur.il.us/council/citycouncil.html |
| Des Plaines city | IL | adapt-admin | 4 | http://www.desplaines.org/Government/CityCouncil/OverviewCouncil.asp |
| East St. Louis city | IL | conciliated | 3 | http://www.cesl.us/CityHall/CityOfficials/Mayor/tabid/196/Default.aspx |
| Elgin city | IL | conciliated | 3 | http://www.cityofelgin.org/index.aspx?NID=638 |

| | | | | |
|---|---|---|---|---|
| Evanston city | IL | adapt-admin | 4 | http //www cityofevanston org/government/manager shtml |
| Joliet city | IL | adapt-admin | 4 | http //www cityofjoliet info/City-Government/City-Council htm |
| Naperville city | IL | adapt-admin | 4 | http //www naperville il us/index_template aspx?id=212 |
| Pekin city | IL | adapt-admin | 4 | http //www ci pekin il us/administration/cityCouncil asp |
| Peoria city | IL | adapt-admin | 4 | http //www ci peoria il us/city-manager |
| Quincy city | IL | conciliated | 3 | http //www ci quincy il us/DOAS/home htm |
| Rockford City | IL | ad-polit | 2 | http //www ci rockford il us/government/council/index cfm |
| Springfield city | IL | political | 1 | http //www springfield il us/Mayor/Index htm |
| St Charles city | IL | ad-polit | 2 | http //www stcharlesil gov/departments/HR/OrganizationCharts/OrgCity html |
| Waukegan city | IL | adapt-admin | 4 | http //www waukeganweb net/localgovernment html |
| Asheville city | NC | adapt-admin | 4 | http //www ashevillenc gov/government/mayor_city_council/city_council/default aspx?id=1354&ekmensel=116_submenu_0_link_2 |
| Burlington city | NC | administrative | 5 | http //www ci burlington nc us/index aspx?NID=139 |
| Concord city | NC | adapt-admin | 4 | http //www ci concord nc us/Government/MayorCouncil/CouncilManagerFormofGovernment/tabid/486/Default aspx |
| Durham city | NC | adapt-admin | 4 | http //www durhamnc gov/council/ |
| Fayetteville city | NC | adapt-admin | 4 | http //www ci fayetteville nc us/portal/city_council/archive/2006/06/30/mayor aspx |
| Gastonia city | NC | adapt-admin | 4 | http //www cityofgastonia com/dept/acmo/edmunn cfm |
| Greenville city | NC | adapt-admin | 4 | http //www greenvillenc gov/departments/mayor_city_council/default aspx?id=501 |
| Hickory city | NC | adapt-admin | 4 | http //www hickorygov com/egov/apps/directory/list egov |
| High Point city | NC | administrative | 5 | http //www hickorygov com/egov/docs/1229544408512 htm |
| Rocky Mount city | NC | adapt-admin | 4 | http //www rockymountnc gov/council html |
| Wilmington city | NC | adapt-admin | 4 | http //www ci wilmington nc us/CityCouncil aspx |
| Wilson city | NC | adapt-admin | 4 | http //www wilsonnc org/government/publicinformation/ |
| Winston-Salem city | NC | adapt-admin | 4 | http //www cityofws org/Home/CityGovernment/CityManager/Articles/CityManager |
| Bowling Green city | OH | political | 1 | http //www bgohio org/elected-officials |
| Canton city | OH | political | 1 | http //www cantonohio gov/?pg=sitemdex |
| Cleveland Heights city | OH | adapt-admin | 4 | http //www clevelandheights com/citydept_manager asp |
| Dayton city | OH | adapt-admin | 4 | Phone call, e-mail to the city hall |
| Euclid city | OH | conciliated | 3 | Phone call to the city hall |
| Garfield Heights city | OH | political | 1 | http //www garfieldhts org/frame htm |
| Hamilton city | OH | adapt-admin | 4 | http //www hamilton-city org/index aspx?page=383 |
| Kettering city | OH | conciliated | 3 | http //www ketteringoh org/newweb/departments/city_council/council_main php |
| Lakewood city | OH | ad-polit | 2 | http //onelakewood com/Mayor/PowersDuties aspx |
| Lorain city | OH | political | 1 | http //www cityoflorain org/mayor/mission shtml |
| Mansfield city | OH | political | 1 | http //www ci mansfield oh us/contact html |
| Mentor city | OH | adapt-admin | 4 | http //www cityofmentor com/media//Live%20Images/OrganizationChart2008 pdf |
| Middletown city | OH | adapt-admin | 4 | http //www cityofmiddletown org/government/ |

| | | | | |
|---|---|---|---|---|
| North Olmsted city | OH | political | 1 | http //www north olmsted com/citygov/citycouncil cfm |
| Parma city | OH | political | 1 | http //www cityofparma oh gov/cityhall/mayorsoffice aspx |
| Springfield city | OH | adapt-admin | 4 | http.//www ci springfield oh us/govt/charter/charter pdf |
| Warren city | OH | political | 1 | http //www warren org/mayor htm |
| Westerville city | OH | adapt-admin | 4 | http //www westerville org/CityGovernment/CityCouncil/tabi d/262/Default aspx |
| Westlake city | OH | political | 1 | http //www cityofwestlake org/citygovernment/mayorsoffice a spx#staff |
| Youngstown city | OH | political | 1 | http //www conwaygreene com/Youngstown htm |
| Albany city | OR | adapt-admin | 4 | http //www cityofalbany net/council/index 2009 php |
| Beaverton city | OR | political | 1 | http //www beavertonoregon gov/government/ |
| Corvallis city | OR | adapt-admin | 4 | http //www ci corvallis or us/index php?option=content&task =view&id=413&Itemid=957 |
| Eugene city | OR | conciliated | 3 | http //www eugene-or gov/portal/server pt/gateway/PTARGS_0_2_332593_0_0_18/Eugene%20Charter-2002%20update pdf |
| Gresham city | OR | adapt-admin | 4 | http //greshamoregon gov/city/city departments/mayor-and city-council/ |
| Hillsboro city | OR | adapt-admin | 4 | http //www ci hillsboro or us/CityCouncil/Default aspx |
| Lake Oswego city | OR | adapt-admin | 4 | http //www ci oswego or us/home/government/cc htm, phone contact of the city hall |
| McMinnville city | OR | adapt-admin | 4 | http //www ci mcminnville or us/city/government/city-manager/ |
| Medford city | OR | adapt-admin | 4 | http //www ci medford or us/SectionIndex asp?SectionID=542 |
| Salem city | OR | adapt-admin | 4 | http //www cityofsalem net/CityCouncil/Pages/default aspx |
| Springfield city | OR | adapt-admin | 4 | http //www ci springfield or us/mc htm |
| Tigard city | OR | adapt-admin | 4 | http //www tigard-or gov/business/municipal_code/docs/charter pdf |
| Abilene city | TX | conciliated | 3 | http //209 85 229 132/search?q=cache nZ0v3HhiAPUJ www abilenetx com/CityCouncil/about htm+Abilene+city,+council &cd=2&hl=fr&ct=clnk&gl=fr&lr=lang_en |
| Baytown city | TX | conciliated | 3 | http //www baytown org/government/default htm |
| Beaumont city | TX | adapt-admin | 4 | http //www cityofbeaumont com/Council/council htm |
| Big Spring city | TX | adapt-admin | 4 | http //www mybigspring com/City%20Departments/Admin/Ci tyManager htm |
| Brownsville city | TX | adapt-admin | 4 | http //www cob us/docs/OrChart pdf |
| Bryan city | TX | adapt-admin | 4 | http //www bryantx gov/departments/?name=executive |
| Carrollton city | TX | adapt-admin | 4 | http //www cityofcarrollton com/index aspx?page=351 |
| Denton city | TX | adapt-admin | 4 | http //www cityofdenton com/pages/cmo cfm |
| Euless city | TX | adapt-admin | 4 | http //www euless org/cityhall/council htm phone call to the city hall |
| Farmers Branch city | TX | adapt-admin | 4 | http //www ci farmers-branch tx us/ , phone contact |
| Grand Prairie city | TX | adapt-admin | 4 | http //www gptx org/Modules/ShowDocument aspx?documen tid=1500 |
| Grapevine city | TX | adapt-admin | 4 | http //www grapevinetexas gov/Government/CityCouncilandBoards/CityCouncil/tabid/689/Default aspx |
| Harlingen city | TX | adapt-admin | 4 | http //www myharlingen us/docs/1-Organization%20Chart%20022509 pdf |
| Killeen city | TX | adapt-admin | 4 | http //www ci killeen tx us/?section=10 |
| League City | TX | adapt-admin | 4 | http //www leaguecity com/index aspx?NID=412 |
| Lewisville city | TX | adapt-admin | 4 | http //www cityoflewisville com/wcmsite/publishing nsf/Cont |

| | | | | |
|---|---|---|---|---|
| | | | | ent/Council++Manager |
| Longview city | TX | adapt-admin | 4 | http //www ci longview tx us/city/index html |
| McAllen city | TX | adapt-admin | 4 | http //www mcallen net/officials/default aspx |
| Mesquite city | TX | adapt-admin | 4 | http //www cityofmesquite com/citymanager/index php |
| Midland city | TX | adapt-admin | 4 | http //www midlandtexas gov/government/city_managment/ci ty_manager html |
| Odessa city | TX | adapt-admin | 4 | http //209 85 229 132/search?q=cache rzHh-T8aSR8J www odessa-tx gov/+Odessa+city,+texas&cd=2&hl=fr&ct=clnk&gl=fr&lr =lang_en |
| Pasadena city | TX | political | 1 | http //www ci pasadena tx us/cityhall htm |
| Port Arthur city | TX | adapt-admin | 4 | http //www portarthur net/administration cfm |
| San Angelo city | TX | adapt-admin | 4 | http //www sanangelotexas org/index asp?Type=B_BASIC&S EC={11C62472-E41B-47AD-9E45-98606DB6404F} |
| Tyler city | TX | adapt-admin | 4 | http //www cityoftyler org/DesktopDefault aspx?tabid=151 |
| Victoria city | TX | adapt-admin | 4 | http //www victoriatx org/council/members asp |
| Waco city | TX | adapt-admin | 4 | http //www waco-texas com/leadership/appointed htm |
| Wichita Falls city | TX | adapt-admin | 4 | http //www cwftx net/index aspx?nid=516 |
| Bellevue city | WA | administrative | 5 | http //www ci bellevue wa us/government htm |
| Bellingham city | WA | ad-polit | 2 | http //www cob org/documents/mayor/mayors-office-info pdf |
| Bremerton city | WA | political | 1 | http //www ci bremerton wa us/display php?id=23 |
| Edmonds city | WA | political | 1 | http //www ci edmonds wa us/city_council stm |
| Everett city | WA | political | 1 | http //www everettwa org/default aspx?ID=7 |
| Federal Way city | WA | administrative | 5 | http //www cityoffederalway com/Page aspx?view=82 |
| Kennewick city | WA | administrative | 5 | http //www ci kennewick wa us/City_Council/FormofGovern ment asp |
| Kent city | WA | political | 1 | http //www ci kent wa us/services/index aspx?id=1308 |
| Kirkland city | WA | adapt-admin | 4 | http //www ci kirkland wa us/depart/council htm |
| Lynnwood city | WA | political | 1 | http //www ci lynnwood wa us/Content/CityHall aspx?id=402 |
| Olympia city | WA | adapt-admin | 4 | http //www ci olympia wa us/en/city-government/city-council-and-mayor aspx |
| Pasco city | WA | adapt-admin | 4 | http //www pasco-wa gov/GeneralInfo/Council |
| Puyallup city | WA | administrative | 5 | http //www cityofpuyallup org/page php?id=586 |
| Redmond city | WA | political | 1 | http //www redmond gov/insidecityhall/citycouncil/meetcoun cil asp |
| Renton city | WA | ad-polit | 2 | http //rentonwa gov/government/default aspx?id=1480 |
| Richmond city | WA | administrative | 5 | http //www ci richland wa us/index cfm?PageNum=28 |
| Seattle city | WA | administrative | 5 | http //www ci seatac wa us/citycouncil/councilminutes/01080 2 htm#OLE_LINK1 |
| Spokane | WA | ad-polit | 2 | http //www spokanecity org/government/ |
| Tacoma | WA | adapt-admin | 4 | http //www cityoftacoma org/Page aspx?nid=53 |
| University Place city | WA | administrative | 5 | http //www ci university-place wa us/CityCouncil/CityCouncil asp |
| Vancouver ci | WA | adapt-admin | 4 | http //www cityofvancouver us/charter asp?menuid=10462&s ubmenuid=10479&itemID=11399 |
| Walla Walla city | WA | adapt-admin | 4 | http //www ci walla-walla wa us/index asp?Type=B_BASIC&SEC={06773B73-33F4-4668-9A2E-2E8E6519D67C} |
| Yakima ci | WA | administrative | 5 | http //www ci yakima wa us/council/charter/#art2 |

## APPENDIX K. Cities Rating by Fiscal Health Index

| City | State | Fiscal Health Index | Innovation Scope |
|---|---|---|---|
| Bellevue city | WA | 9.94 | 88.53 |
| Redmond city | WA | 7.18 | 0 |
| Kirkland city | WA | 7 | 74.56 |
| Lake Oswego city | OR | 6.62 | 0 |
| Boulder city | CO | 6.15 | 30.83 |
| Edmonds city | WA | 5.52 | 32.97 |
| Kent city | WA | 5.2 | 46.6 |
| Farmers Branch city | TX | 4.68 | 59.86 |
| Renton city | WA | 4.36 | 59.86 |
| Grapevine city | TX | 3.78 | 63.44 |
| Naperville city | IL | 3.77 | 0 |
| Westminster city | CO | 3.45 | 92.12 |
| Carrollton city | TX | 3.36 | 44.09 |
| Westlake city | OH | 3.25 | 43.73 |
| Federal Way city | WA | 3.21 | 3.58 |
| Beaverton city | OR | 3.12 | 52.69 |
| Fort Collins city | CO | 3.01 | 22.94 |
| Longmont city | CO | 2.89 | 39.07 |
| Arvada city | CO | 2.86 | 0 |
| Everett city | WA | 2.86 | 39.79 |
| Englewood city | CO | 2.77 | 0 |
| Tigard city | OR | 2.72 | 75.63 |
| University Place city | WA | 2.69 | 74.56 |
| Olympia city | WA | 2.57 | 52.69 |
| Puyallup city | WA | 2.55 | 0 |
| SeaTac city | WA | 2.27 | 0 |
| Broomfield city | CO | 2.2 | 0 |
| Marietta city | GA | 2.14 | 51.97 |
| Des Plaines city | IL | 2.11 | 0 |
| Thornton city | CO | 1.99 | 0 |
| Lewisville city | TX | 1.97 | 74.56 |
| Grand Junction city | CO | 1.92 | 0 |
| Lakewood city | CO | 1.89 | 0 |
| Westerville city | OH | 1.89 | 72.41 |
| Euless city | TX | 1.67 | 43.01 |
| League city | TX | 1.64 | 0 |
| Vancouver city | WA | 1.63 | 96.42 |
| Mesquite city | TX | 1.26 | 0 |
| Baytown city | TX | 1.22 | 43.73 |
| Lynnwood city | WA | 1.11 | 53.77 |
| Bellingham city | WA | 1.04 | 52.69 |
| Loveland city | CO | 0.85 | 0 |
| Kennewick city | WA | 0.82 | 62.73 |
| Greeley city | CO | 0.79 | 0 |
| Midland city | TX | 0.71 | 0 |

| | | | |
|---|---|---|---|
| Dalton city | GA | 0.68 | 0 |
| Bloomington city | IL | 0.62 | 0 |
| Richland city | WA | 0.62 | 62.73 |
| Springfield city | IL | 0.6 | 0 |
| Gresham city | OR | 0.59 | 0 |
| McAllen city | TX | 0.54 | 52.69 |
| Grand Prairie city | TX | 0.43 | 0 |
| Gainesville city | GA | 0.35 | 52.69 |
| Tyler city | TX | 0.34 | 68.82 |
| Pasadena city | TX | 0.29 | 51.26 |
| St Charles city | IL | 0.25 | 80.29 |
| Kettering city | OH | 0.22 | 48.03 |
| Lakewood city | OH | 0.1 | 65.59 |
| Tacoma city | WA | 0.08 | 50.54 |
| Yakima city | WA | 0.07 | 77.06 |
| Evanston city | IL | 0.06 | 0 |
| Hickory city | NC | 0.02 | 79.22 |
| Longview city | TX | 0 | 0 |
| Medford city | OR | -0.04 | 65.59 |
| Hillsboro city | OR | -0.13 | 0 |
| Eugene city | OR | -0.16 | 62.72 |
| Corvallis city | OR | -0.24 | 100 |
| Columbus city | GA | -0.36 | 0 |
| McMinnville city | OR | -0.36 | 0 |
| Euclid city | OH | -0.52 | 0 |
| Durham city | NC | -0.53 | 0 |
| Mentor city | OH | -0.56 | 0 |
| Odessa city | TX | -0.56 | 0 |
| Victoria city | TX | -0.59 | 0 |
| Winston-Salem city | NC | -0.61 | 70.97 |
| Spokane city | WA | -0.62 | 0 |
| Salem city | OR | -0.63 | 0 |
| Denton city | TX | -0.67 | 41.57 |
| Bryan city | TX | -0.68 | 55.92 |
| Champaign city | IL | -0.73 | 0 |
| Beaumont city | TX | -0.74 | 0 |
| Joliet city | IL | -0.78 | 0 |
| Fayetteville city | NC | -0.78 | 0 |
| Pueblo City | CO | -0.79 | 0 |
| Parma city | OH | -0.79 | 0 |
| Greenville city | NC | -0.83 | 0 |
| Albany city | OR | -0.83 | 0 |
| North Olmsted city | OH | -0.84 | 0 |
| Pasco city | WA | -0.98 | 0 |
| Cleveland Heights city | OH | -1.03 | 0 |
| Aurora city | IL | -1.06 | 60.58 |
| Valdosta city | GA | -1.12 | 0 |
| Killeen city | TX | -1.12 | 0 |

| | | | |
|---|---|---|---|
| Elgin city | IL | -1.14 | 57.71 |
| High Point city | NC | -1.37 | 51.97 |
| Springfield city | OR | -1.38 | 0 |
| Rocky Mount city | NC | -1.45 | 0 |
| Harlingen city | TX | -1.59 | 0 |
| San Angelo city | TX | -1.6 | 0 |
| Warner Robins city | GA | -1.62 | 0 |
| Abilene city | TX | -1.66 | 0 |
| Gastonia city | NC | -1.75 | 0 |
| Wilson city | NC | -1.75 | 39.07 |
| East Point city | GA | -1.76 | 52.33 |
| Savannah city | GA | -1.81 | 62.37 |
| Peoria city | IL | -1.81 | 0 |
| Rome city | GA | -1.83 | 0 |
| Waco city | TX | -1.84 | 0 |
| Wichita Falls city | TX | -1.89 | 0 |
| LaGrange city | GA | -1.92 | 0 |
| Concord city | NC | -2.03 | 84.23 |
| Middletown city | OH | -2.11 | 36.2 |
| Wilmington city | NC | -2.13 | 0 |
| Macon city | GA | -2.2 | 38.72 |
| Brownsville city | TX | -2.21 | 0 |
| Waukegan city | IL | -2.27 | 0 |
| Albany city | GA | -2.38 | 56.27 |
| Bremerton city | WA | -2.38 | 0 |
| Asheville city | NC | -2.39 | 46.96 |
| Big Spring city | TX | -2.46 | 0 |
| Burlington city | NC | -2.57 | 0 |
| Berwyn city | IL | -2.65 | 0 |
| Decatur city | IL | -2.74 | 0 |
| Rockford City | IL | -2.78 | 60.93 |
| Carbondale city | IL | -2.85 | 0 |
| Dayton city | OH | -2.98 | 0 |
| Lorain city | OH | -3.11 | 0 |
| Bowling Green city | OH | -3.13 | 0 |
| Pekin city | IL | -3.28 | 0 |
| Walla Walla city | WA | -3.34 | 0 |
| Port Arthur city | TX | -3.37 | 0 |
| Mansfield city | OH | -3.43 | 0 |
| Canton city | OH | -3.55 | 0 |
| Garfield Heights city | OH | -4.03 | 0 |
| Springfield city | OH | -4.14 | 0 |
| Hamilton city | OH | -4.26 | 0 |
| Warren city | OH | -4.42 | 0 |
| Quincy city | IL | -4.48 | 0 |
| East St. Louis city | IL | -4.9 | 0 |
| Youngstown city | OH | -6.1 | 0 |

## BIBLIOGRAPHY

Advisory Commission on Intergovernmental Relations. (1962). *Measures of State and Local Fiscal Capacity and Effort*. M-16 (Washington, DC: ACIR).

General Accounting Office. (1978). State and Local Government Productivity Improvement: What is the Federal Role? Washington, D.C.: U.S. Government Printing Office, December 6, pp. vi, 28-29, 33-34, and 61.

Multi-Agency Study Team. (1980). Report to the National Productivity Council, November 1979. Reprinted in *Public Productivity Review*, 4 : 170.

Organization for Economic Co-operation and Development (OECD). (1995). *The Measurement of Scientific and Technological Activities. Proposed Guidelines for Collecting and Interpreting Technological Innovation Data.* Oslo Manual, 2nd edition, DSTI, OECD/European Commission Eurostat, Paris.

Organization for Economic Co-operation and Development (OECD). (2005). *The Measurement of Scientific and Technological Activities. Guidelines for Collecting and Interpreting Innovation Data.* Oslo Manual, 3rd Edition. OECD, Eurostat, OECD Publishing.

The International City Management Association (ICMA). (1990). The Guide to Management Improvement Projects in Local Government.

The Oxford Handbook of Innovation. (2005). Fagerberg, J., Mowery, D. and Nelson, R. (Eds.). Oxford University Press.

U.S. Department of the Treasury, Office of State and Local Finance. (1978). *Report on the fiscal impact of the economic stimulus package on 48 large urban governments*. Washington, DC: Government Printing Office.

Aaronson, J. R. (1984). "Municipal Fiscal Indicators." In J. Carr, *Crisis and Constraint in Municipal Finance: Local Fiscal Prospects in a Period of Uncertainty.* New Brunswick, NJ: Center for Urban Policy Research.

Altman, S. (1979). Performance Monitoring Systems for Public Managers. *Public Administration Review,* 39(1): 3135.

Ashton P., Newman K. (2004). Neoliberal urban policy and new paths of neighborhood change in the American inner city. *Environment and Planning,* 36(7) 1151 – 1172.

Bahl, R. (1984). The Fiscal Health of the State and Local Government Sector. In *Financing State and Local Government in the 1980's*. New York: Oxford University Press : 33-51.

Behn, R. (2003). Why Measure Performance? Different purposes require different measures. *Public Administration Review* 63(5) : 586.

Berman, E. and J. West. (1995). Municipal Commitment to Total Quality Management: A Survey of Recent Progress. *Public Administration Review,* 55(1): 5766.

Berman E. and X. Wang. (2002). Performance Measurement in U.S. Counties: Capacity for Reform. *Public Administration Review,* 60 (5): 409-420

Berne, R. and Schramm, R. (1986). *The Financial Analysis of Governments*. NJ: Prentice-Hall.

Berry, F. and W. Berry. (1990). State Lottery Adoptions as Policy Innovations: An Event History Analysis. *American Political Science Review,* 84 (2): 395 – 415.

Berry W. and R. Fording. 1997. Measuring State Tax Capacity and Effort. *Social Science Quarterly*, 78 (March 1997): 158-166.

Berube, A. (2007). MetroNation: How U.S. Metropolitan Areas Fuel Prosperity. Washington: Brookings

Bingham, R, Hawkins, B. Frendreis, J. and LeBanc, M. (1981). *Processional Association and Municipal Innovation,* Madison: University of Wisconsin Press.

Bourgeois, L. (198). On the Measurement of Organizational Slack. *Academy of Management Review,* 6: 29-39.

Bourgeois, L. and J. Singh. (1983). Organizational Slack and Political Behavior within Top Management Teams. *Academy of Management Proceedings,* August : 43-47.

Bozeman, B. and Slusher, A. (1979). Scarcity and Environmental Stress in Public Organisations. *Administration and Society,* II, 3, pp. 335-355.

Bowers, J. and R. Wilbur. (2000). *Governing Middle-Sized Cities — Studies in Mayoral Leadership.* Boulder: Lynne Rienner Publishers.

Broom, C. and L. McGuire. (1995). Performance-Based Government Models: Building a Track Record. *Public Budgeting and Finance*, 15 (4): 3-17.

Brown, K. (1993). The 10-Point Test of Financial Condition: Toward an Easy-to-Use Assessment Tool for Smaller Governments. *Government Finance Review,* 9(1): 21-25.

Bunce, H., and Goldberg, R. (1979). City Need and Community Development Funding. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Bunch, B. and R. Ducker. (2003). Implications Of Using Enterprise Funds To Account For Public Works Services. *Public Works Management Policy*, 7: 216.

Burchell R., D. Listokin, G. Sternlieb, J. Hughs, and S. Casey. (1981). Measuring Urban Distress: A Summary of the Major Urban Hardship Indices and Resource Allocation Systems. In R. Burchell and D. Listokin (eds.), *Cities Under Stress.* Piscataway, NJ: Center for Urban Policy Research.

Chan, J, Clark, T. and Troha, M. (1983). Organizational Slack in Municipal Governments. *Journal of Urban Affairs,* 5 (2): 95 - 307.

Clingermayer, J. and R. Feiock. (2001). *Institutional constraints and policy choice.* Albany: State Univ. of New York Press.

Clark, T. (1999). Local Government Innovation in International Perspective: The Fiscal Austerity and Urban Innovation Project. *Government Finance Review,* 5(5): 31-3.

Clark, T. and Ferguson, L. (1983). *City Money: Political Processes, Fiscal Strain and Retrenchment,* New York: Columbia University Press.

Clarke, S. and G. Gaile. (1998). *The Work of Cities*. Minneapolis: University of Minnesota Press.

Cohen, M., J. March, J. Olsen. (1972). A Garbage Can Model of Organizational Choice. *Administrative Science Quarterly*, Vol. 17, No. 1, pp. 1-25.

Cohen, S. and R. Brand. (1993). Total Quality Management in Government: A Practical Guide for the Real World. San Francisco: Jossey-Bass.

Congressional Budget Office. (1978). *City need and the responsiveness of federal grants programs*. Washington, DC: Government Printing Office.

Cope, G. (1992). Walking the Fiscal Tightrope: Local Government Budgeting and Fiscal Stress. *International Journal of Public Administration,* 15(5): 1097-1120.

Cope, G. and Grubb, W. (1982). Restraint in a Land of Plenty: Revenue and Expenditure Limitations in Texas. *Public Budgeting and Finance*, 2(4): 143-156.

Cyert, R. and March, J. (1963). A *Behavioral Theory of The Firm,* Englewood Cliffs: Prentice Hall.

Davila, T., M. Epstein and R. Shelton. (2006). *Making Innovation Work: How to Manage It, Measure It, and Profit from It.* Upper Saddle River: Wharton School Publishing.

De Lancer J. and M. Holzer. (2001). Promoting the Utilization of Performance Measures in Public Organizations: An Empirical Study of Factors Affecting Adoption and Implementation . *Public Administration Review,* 61(6): 693 – 708.

De Tocquevilee, A. (1945). *Democracy in America*. Vol. I, New York: Vintage Books, p. 67.

Downs, G. and Mohr, L. (1976). Conceptual Issues in the Study of Innovation, *Administrative Science Quarterly,* 21, 4, pp. 700-714.

Downs, G. (1976). Bureaucracy, Innovation and Public Policy, Lexington, Mass.: Lexington Books.

Eadie, D. (1989). Building the Capacity for Strategic Management. In James L. Perry, ed., Handbook of Public Administration. San Francisco: Jossey-Bass.

Elazar, D. (197). *Cities of the Prairie - The Metropolitan Frontier and American Politics.* New York: University Press of America.

Elazar, D. (2002).*The Closing of the Metropolitan Frontier - Cities of the Prairie Revisited.* New Brunswick: Transaction Publishers.

Elkin, S. (1983). Towards a Contextual Theory of Innovation. *Policy Sciences,* 15: 367-387.

Epstein, P. (1984). Using Performance Measurement in Local Government. New York: Van Nostrand.

Fagerberg, J. (2004). *Innovation: A Guide to the Literature* in Fagerberg, Jan, David C. Mowery and Richard R. Nelson. *The Oxford Handbook of Innovations*. Oxford University Press : 1–26.

Fountain, J. (2001). Building the Virtual State: Information Technology and Institutional Change. Washington, DC: Brookings Institution Press.

Frederickson, G. and G. Johnson. (2001). The Adapted American City: A Study of Institutional Dynamics. *Urban Affairs Review*, Vol. 36, No. 6

Frederickson, G., G. Johnson and C. Wood. (2004). The adapted city: Institutional dynamics and structural change. Armonk, NY: M. E. Sharpe.

Frug, G. (1999). *City Making: Building Communities without Building Walls*. Princeton: Princeton University Press, p. 4.

Grenier, J. (1986). Motivational Programs and Productivity Improvement in Times of Limited Resources. *Public Productivity Review,* 10 (1): 81-101

Groves, S., Godsey, M. and Nollenberger, K. (2003). *Evaluating Financial Condition: A Handbook for Local Government*. (4 ed.) Washington, D.C.: ICMA.

Hatry, H. (1978). The Status of Productivity Measurement in the Public Sector. *Public Administration Review,* 38(1): 28-33.

Hatry H. and D. Fisk. (1971). Improving Productivity and Productivity Measurement in Local Government. Washington, DC: The Urban Institute.

Hatry H. , L. Blair, D. Fisk, J. Greiner, J. Hall, and P. Schaenman. (1977). How Effective Are Your Community Services? Washington, DC: The Urban Institute.

Hendrick, R. (2004). Assessing and Measuring the Fiscal Health of Local Governments: Focus on Chicago Suburban Municipalities. *Urban Affairs Review, 40,* 78-114.

Hendrick, R. (2006). Role of Slack in Managing Local Government Fiscal Conditions *Public Budgeting and Finance*, 26(1): 14-46.

Herold, David M., Narayanan Jayaraman, and C.R. Narayanaswamy. (2006). What is the relationship between organizational slack and innovation?' *Journal of Managerial Issues,* 18(3) : 372.

Holzer, M. (1980). Sharing Productivity Information. *Public Productivity Review,* 4 : 138-145.

Holzer, M. (1977). The Demand for Productivity in the Municipal Civil Service. *Public Administration Review,* 37 (September-October): 505-508.

Hyde, A. (1995). Quality, Reengineering, and Performance: Managing Change in the Public Sector. In Arie Halachmi and Geert Bouchaert, eds., The Enduring Challenges in Public Management: Surviving and Excelling in a Changing World. San Francisco: Jossey-Bass.

Ittner, C. and D. Larcker. (1998). Innovations in Performance Measurement: Trends and Research Implications. *Journal of Management Accounting Research,* 10.

Jensen, M. (1993). The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *Journal of Finance,* 48: 831-880.

Johnson, D. and R. Veach (eds.). (1980). Middle-Sized Cities of Illinois: Their People, Politics, and Quality of Life, Sangamon State University, Springfield, IL.

Jordan, M. and M. Hackbart. (1999). Performance Budgeting and Performance Funding in the States: A Status Assessment. *Public Budgeting and Finance,* 19(1): 68–88.

Koteen, J. (1991). Strategic Management in Public and Nonprofit Organizations. New York: Praeger.

Kravchuck, R. and R. Leighton. (1993). Implementing Total Quality Management in the United States. *Public Productivity &Management Review,* 17: 71-82.

Krebs T. and J. Pelissero. (2009). Urban Managers and Public Policy: Do Institutional Arrangements Influence Decisions to Initiate Policy? *Urban Affairs Review,* January, 45(3) : 391-411.

Ladd, H. and J. Yinger. (1989). *America's ailing cities: Fiscal health and the design of urban policy*. Baltimore: Johns Hopkins Univ. Press.

Levine, C., Rubin, I. and Wolohojlan, G. (1981). *The Politics of Retrenchment.* Beverly Hills: Sage Publications.

Levine, C. Ed. (1980). *Managing Fiscal Stress*. New York: Chatham House.

MacManus, S. (1984). Coping with Retrenchment: Why Local Governments Need to Restructure Their Budget Document Formats. *Public Budgeting and Finance*, 4(3):58-66.

MacManus, S. and Grothe, P. (1989). Fiscal Stress as a Stimulant to Better Revenue Forecasting and Productivity. *Public Productivity Review*, 12(4): 387-400.

March, J. and Simon, H. (1958). *Organizations.* New York: John Wiley and Sons.

Marlowe, J. (2005). Fiscal Slack and Counter-Cyclical Expenditure Stabilization: A First Look at the Local Level. *Public Budgeting and Finance, Vol. 25, No. 3, pp. 48-72.*

May P. and Meltsner, A. (1981). Limited Actions, Distressing Consequences: A Selected View of the California Experience. *Public Administration Review*, 41(1): 172-179.

Melkers, J. and K. Willoughby. (1998). The State of the States: Performance-Based Budgeting Requirements in 47 Out of 50. *Public Administration Review,* 58(1): 66–73.

Miles, I. (2000). Services Innovation: Coming of Age in the Knowledge Based Economy. *International Journal of Innovation Management,* 14 (4): 371–389.

Mossberger, K. (2000). The politics of ideas and the spread of enterprise zones. Washington, DC: Georgetown University Press.

Muro, M., Rahman,S. and A. Liu. (2009). Implementing ARRA: Innovations in Design in Metro America. Working Paper. Washington, Brookings.

Muro, M. (2008). MetroPolicy: Shaping a New Federal Partnership for a Metropolitan Nation. Washington: Brookings.

Osborne, D. and Gaebler, T. (1992). Reinventing Government. New York, NY: Penguin Press.

Ostrom, V. Bish, and E. Ostrom. (1988). *Local Government in the United States.* San Francisco: ICS Press, p. 34.

Nalbandian, J. (1999). Facilitating community, enabling democracy: New roles for local government managers. *Public Administration Review,* 59:187-97.

Nancy L., G. Morgan, and K. Barrett. (2007). Spss For Intermediate Statistics: Use And Interpretation. 3rd Ed. Lawrence Erlbaum Associates, Taylor and Francis Group, NY, London.

Nelson, R., Winter, S. (1977). In search of a useful theory of Innovation. *Research Policy* 6 (1): 36–76.

Nohria, N. and R. Gulati. (1996). Is Slack Good or Bad for Innovation? *Academy of Management Journal,* 39 (5): 1245-1264.

O'Sullivan, M. (2005). Finance and Innovation. Ch. 9 in R. Nelson, D. Mowery, J. Fagerberg. *The Oxford Handbook of Innovation*. Oxford University Press.

Pagano, M. and Bowman, A. (1995). *Cityscapes and Capital- The Politics of Urban Development.* Baltimore: The John Hopkins University Press.

Pagano, M., Hoene, C. and K. Khovanova. (2007). *Fiscal Policy Space*. Paper presented at the ABFM 2007 Annual Conference in Atlanta, GA, USA in October 2007.

Pammer, W. (1990). Managing Fiscal Strain in Major American Cities. Understanding Retrenchment in the Public Sector. Greenwood Press, New York.

Peters, B. (2001). *The Future of Governing: Four Emerging Models*. 2nd ed. Lawrence: University Press of Kansas.

Pfeffer, J. (1992). Managing with Power. Boston, MA: Harvard Business School Press.

Poister, Theodore H. (1997). A Survey of Performance Measurement Systems in State Transportation Departments. *Public Works Management & Policy,* 1 (4): 323-341.

Poister, T. and R. McGowan. (1984). The Use of Management Tools in Municipal Government: A National Survey. *Public Administration Review,* 44(3): 215-223.

Poister, T. and G. Streib. (1999). Performance Measurement in Municipal Government: Assessing the State of the Practice. *Public Administration Review* 59(4): 325–35.

Poterba, J. (1995). Capital Budgets, Borrowing Rules, and State Capital Spending. *Journal of Public Economics,* 56, no. 1: 165–187.

Ridley, C. and H. Simon. (1943). Measuring Municipal Activities: A Survey of Suggested Criteria for Appraising Administration. Chicago: The International City Management Association.

Rogers, E. (1995). *Diffusion of Innovations*, 4th ed. New York: The Free Press.

Rogers, E. and Kim, J. (1985). Diffusion of Innovations in Public Sector Organizations. In Richard L. Merritt and Anne J. Merritt (eds.), *Innovation in the Public Sector,* Beverly Hills: Sage Publications.

Rosner, M. (1968). Economic Determinants of Organizational Innovation. *Administrative Science Quarterly*, 12: 614-625.

Sanger, M. (2008). From Measurement to Management: Breaking through the Barriers to State and Local Performance. *Public Administration Review*, 68 (1): 70-85.

Savage, R. (1978). Policy Innovativeness as a Trait of American States. *Journal of Politics,* 40 (1): 212 – 19.

Schumpeter, J. (1996). The theory of Economic Development. New Brunswick: Transaction Publishers.

Schumpeter, J. (1934). The Theory of Economic Development. Harvard University Press: Boston.

Sharfman, M., G. Wolf, R. Chase and D. Tansik. (1988). Antecedents of Organizational Slack. *Academy of Management Review,* 13: 601-614.

Singh, J. V. (1986). Performance, Slack, and Risk Taking in Organizational Decision Making. *Academy of Management Journal,* 29: 562-585.

Steiss, A. (1985). Strategic Management and Organizational Decision Making. Lexington, MA: Lexington Books, D.C. Heath.

Stipak, B. and D. O'Toole. (1993). Fiscal Stress and Productivity Improvement: Local Government Managers' Perspective. *Public Productivity & Management Review*, 17(2) : 101-112 .

Streib, G. and K. Willoughby. (2004). Local Governments as E-Governments: Meeting the Implementation Challenge. *Public Administration Quarterly,* 3 : 112-132.

Tannenwald, R. (1999). Fiscal Disparity Among the States Revised. *New England Economic Review* (July/August): 3-25.

Tolbert, C., Mossberger K. and R. McNeal. (2008). Institutions, Policy Innovation, and E-Government in the American States. *Public Administration Review,* May/June: 549-63.

Urban Institute and the International City/County Management Association. (1997). Comparative Performance Measurement: FY 1995 Data Report. Washington, DC: Urban Institute and ICMA.

Vinzant, D. and J. Vinzant. (1996). Strategy and Organizational Capacity: Finding a Fit. *Public Productivity & Management Review,* 20(2): 139-157.

Walker, J. (1969). The Diffusion of Innovation among the American States. *American Political Science Review,* 63(3): 880 - 89.

Waller, J. et al. (1976). Monitoring for Government Agencies. Washington, DC: The Urban Institute.

Wholey, J. (1983). Evaluation and Effective Public Management. Boston: Little-Brown.

Willoughby, K. and J. Melkers. (2000). Implementing PBB: Conflicting Views of Success. *Public Budgeting and Finance,* 20(1): 105–20.

Willoughby, K. and J. Melkers. (2001). Performance Budgeting in the States. In *Quicker, Better, Cheaper? Managing Performance in American Government*, edited by Dall Forsythe, 335–64. Albany, NY: Rockefeller Institute Press.

Waters, M. (2003). *Initiative and Referendum Almanac*. Durham, NC: Carolina Academic Press.

Wolman, Harold. 1983. Understanding Local Government Responses to Fiscal Pressure. *Journal of Public Policy,* 3(3): 245-264.

Wolman, H. (1986). Innovation in Local Government and Fiscal Austerity. *Journal of Public Policy,* 6(2) : 159-180.

Wolman, H. and B. Davis. (1980). Local Government Strategies to Cope with Fiscal Pressure. In C. Levine and I. Rubin (eds.) Fiscal Stress and Public Policy. Beverly Hills: Sage

Worthington, P. (1995). Investment, Cash Flow, and Sunk Costs. *Journal of Industrial Economics*, vol. 43, 1 : 49-61.

Zaltman, G., Duncan, R. and Holbek, J. (1973). *Innovations and Organizations,* New York, John Wiley and Sons.

# VITA

## KSENIYA M. KHOVANOVA

## EDUCATION

**PhD, Public Administration**: Finance, Science & Technology, 2010
University of Illinois, University of Chicago
- Dissertation: ***How City Fiscal Health Affects its Innovation***
- Examination Areas: Public Administration History and Theory, Public Finance Management, Science & Technology Policy

**MPA, Public Administration**: Budgeting and Economics, 2004
California State Polytechnic University
- Thesis: ***Investment Climate in a Transition Country Ukraine***
- Specialization Areas: Public Administration, Public Policy, Public Economics and Budgeting

**MBA, Banking and Economics**, London Guildhall School/Kyiv Banking Academy, 1998
- Thesis: ***Bank Operations Management***
- Specialization Areas: Investment Banking, Securities, Bank Operations Management

**B.A. Social Sciences**, Sumy State University. 1995
- Thesis: ***Ukrainian Meal Courses in the Works of Ukrainian Writers***
- Specialization Areas: English, Russian and Ukrainian languages and literature

## ACADEMIC APPOINTMENTS

2009-present Independent Evaluator
*The European Commission and the Council of Europe joint programs: Intercultural Cities, Cultural Policy Review, Compendium*

2004- 2009 Senior Research Fellow & Research Team Manager
*The Ashburn Institute, Washington, DC USA*

2007 – 2008 Fiscal Policy Researcher
*Government Financial Officers Association (GFOA), Chicago, IL*

2006 – 2007 Lecturer
*University of Northern Virginia, Annandale, VA USA*

2005 – 2008 Research Associate
*PA Department at CUPPA-UIC, Chicago, IL working with*
- *Lincoln Institute of Land Policy on "City Revenue Structures, Challenges, and Constraints" project;*
- *Pew Center on the States' PCS Tax Project on "State-Local Fiscal Systems"*
- *NETWISE 2006 NSF funded project (Grant # REC-0529642)*

2003 – 2003 Research-Assistant
*The Heritage Foundation, Washington, DC*

2002 – 2004 Teaching Assistant
*Department of Business Administration, Cal State, Pomona, CA*

1995 – 1999 Lecturer, *Department of International Studies at Kiev Banking Academy, Ukraine*
1993 – 1995 Teacher, *Community College # 4 in Sumy, Ukraine*

## RESEARCH INTERESTS

*Public Finance*
*Fiscal Health of Local Governments*
*Intergovernmental Relations*
*Urban Affairs*
*Public Economics and Innovation*
*Science and Technology Policy*

## AWARDS and FELLOWSHIPS

- The Frank Educational Fund Scholarship. Ashburn Institute, VA, September 2007
- American Society of Public Administration. Founders' Fellowship Award. Washington, DC. 2006
- The Frank Educational Fund Scholarship. AUD, VA, April 2005
- Recognition of Achievements Award. California State Polytechnic University, Pomona, USA. 2004
- Outstanding Delegation Team Award. NMUN 2004, New York, NY, April 2004
- The Frank Educational Fund Scholarship. AUD, Washington DC, October 2003
- Scholastic Achievement Award. California State Polytechnic University, Pomona, USA. Nov 2002
- US Department of Education: Edmund Muskie Scholarship for Graduate Studies. 2002
- Winner of "English as a Foreign Language" study tour at Siena College, Loudonville, NY, March 1993

## PUBLICATIONS

### *Books*

*Expanded EU: from Autonomy to Alliance*; Chief editor. Rodopi. Netherlands; October 2008

*Tax, State and Society,* Marc Leroy (France). Economica, 2011. Forecoming

### *Book Chapters*

Assessing the Financial Condition of Local Governments. Part II. *What is Financial Condition and how is it Measured?* With Hendrick, R. in B. Hildreth and G. Miller, Public Budgeting Laboratory, Athens, GA: Carl Vinson Institute of Government, USA, 2006.

### *Peer-Reviewed Articles*

How does Fiscal Health of North Carolina Cities Affect their Degree of Innovation? 2008. *Croatian Economic Surveys*, Croatia.

The Effects of Fiscal Health of the U.S. Cities on their Degree of Innovation. 2011. *Berkeley Planning Journal (BPJ),* forthcoming.

Issues in the Transformation of European Welfare Systems. 2008. Book Review, *Public Administration Review*, USA

End-User Adoption of Alternative Fuels in Local Government: Evaluation of Factors Affecting Driver Choice. 2008 With E. Welch and K. Johns. *Environment and Behaviour*, 4. USA

The Impact of the Extended EU on Its Relations with the United States. 2005. *Global Magazine*, Warsaw, Poland

### *Working Papers and Reports*

Intercultural Cities Programme Evaluation (joint initiative of the EC-CoE). 2009. The Council of Europe, Strasbourg, France. http://www.coe.int/t/dg4/cultureheritage/culture/cities/EvaluationInterculturalCities_en.pdf

Concurrent Evaluation of the Council of Europe Culture and Diversity Project. 2010. The Council of Europe, Strasbourg, France.

City Revenue Structures and Fiscal Policy Space. 2007. Mike Pagano, Christopher Hoene, Kseniya Khovanova. Working paper: ABFM, USA.

Building Female Scientists and Engineers: The Role of Formal and Informal Mentorship in Career Outcomes. With Julia Melkers. Emergent Collaborative Networks: SME Publications, 2006. Chicago, Illinois

Investment Climate in Ukraine. The Role of Government Legal Infrastructure. Thesis: California State Poly University, Pomona, CA, May 2004. USA

***Conference Presented Papers***

| | |
|---|---|
| May, 2011 | Evaluating ICT Potential for Improving Health Information Quality in Africa, IST-Africa Conference (FP-7), Gaborone, BOTSWANA |
| May, 2010 | KCCC – From Community Initiative to Self-Sustainable Enterprise, IST-Africa Conference (FP-7), Durban, SOUTH AFRICA |
| Dec 2008 | How does Fiscal Health of North Carolina Cities Affect their Degree of Innovation? CRP H. Tudor, LUXEMBOURG |
| Oct 2007 | City Revenue Structures and Fiscal Policy Space at the 19th Annual Budget and Financial Management Conference in Washington, DC, USA |
| Sep 2007 | Fiscal Policy Map of California Cities at the European Group of Public Administration (EGPA) conference in Madrid, SPAIN |
| Apr 2007 | Fiscal Policy Map of a City at Western Social Science Association's Annual Conference in Calgary, CANADA |
| Oct 2006 | The Role of Formal and Informal Mentorship in Women's Career Outcomes at the Association for Public Policy Analysis and Management (APPAM) Conference in Madison, Wisconsin, USA |
| Oct 2006 | Measuring Fiscal Condition of Local Governments at the 18th Annual Budget and Financial Management Conference in Atlanta, Georgia, USA |
| Apr 2006 | The Effects of the EU Policy-Making on the Character of the Transatlantic Relations at the Redefining Europe III Conference in Girne, CYPRUS |
| Apr 2005 | One Year Following the EU Expansion: Has the International Dialogue Changed? At the Redefining Europe II in Prague, CZECH REPUBLIC |
| Sep 2004 | Globalization: Threats and Opportunities at the Ashburn Institute Round-Table in Washington, DC, USA Discus. Chair 09/04 |
| Apr 2004 | To Which Extent Syrian Politics Define the Political Situation in Middle East? At the National Model United Nation Competition in the UN Headquarters in New York, New York as a Cal Poly Pomona University winning team member |
| Mar 2004 | EU Enlargement and the Constitution at the Redefining Europe I in Prague, CZECH REPUBLIC |

## ACADEMIC COMMITTEES

| | |
|---|---|
| 2011 | *Global Challenges for Intelligent HealthCare Management* Conference Committee Chair, Washington University, St. Louis MO, USA |
| 2010 | *Culture and the Policies of Change Conference* by the EC/ EESC/CoE, Brussels, BE |
| 2009 | Agency for Scientific Cooperation ACSAL, Luxembourg, LU |
| 2009 | Committee Chair: Research Competition on *League of Democracies as Foreign Policy Innovation*, Washington DC, USA |
| 2008 | Committee Chair for the *Renewing the Transatlantic Relationship: Prospects for Europe and the United States in an Emerging Multipolar World* Conference at the University of Oklahoma, Norman, USA |
| 2006 | Committee Member at the *Redefining Europe III* Conference in Girne, CYPRUS |

## PROFESSIONAL MEMBERSHIP

European Finance Association

American Political Science Association

Midwest Political Science Association

National Tax Association

NMUN Alumna Association