How Does Variation in City Fiscal Health Affect Its Degree of Innovation?

Kseniya M. Khovanova

Abstract

Fiscal pressures faced by American cities from the late 1970s to the early 1980s renewed the attention of fiscal policy analysts to the financial health of local communities. As a result, numerous efforts were made to evaluate various governments' fiscal conditions, and to identify new forms of activity that could assist in maintaining the fiscal health of the communities. Essentially, fiscal difficulties faced by U.S. cities stimulated their governments to innovate. However, from the perspective of the literature on innovation, innovation is an expensive process that requires upfront and continuous investments. Given these two sets of arguments, the question arises as to whether or not the availability of financial resources is a determinant of innovative government activity. This study examines the relationship between the fiscal health of U.S. city governments and the scope of their adopted innovation. The importance of the availability of slack resources as an incentive for governments to innovate is analyzed. A multifaceted index of government fiscal health and a measure of the scope of innovation are developed in the course of this case study of a randomly selected sample of cities in North Carolina (U.S.A.) with populations above 25,000. This study concludes that fiscally healthy city governments in North Carolina are more likely to engage in innovation activities than fiscally stressed city governments. Logically, higher slack resource availability in a government is usually associated with some stage of innovation implementation, although without any traceable consistency.

Keywords: fiscal health, fiscal policy, innovation, policy diffusion JEL classification: E62, H11, O31

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1 Introduction

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

Fiscal pressures faced by American central cities from the late 1970s to the early 1980s – as a result of a decline in federal government aid, a deep economic recession, and citizen opposition to tax increases – amplified the attention of fiscal policy scholars and analysts to the financial health of local jurisdictions. This produced numerous efforts to examine local government fiscal conditions and their financial performance (Bunce and Goldberg, 1979; Clark and Ferguson, 1983; Bahl, 1984; ACIR 1962; Burchell et al., 1981; Aaronson, 1984; Berne and Schramm, 1986; Ladd and Yinger, 1989; Clark, 1999; Groves, Godsey and Nollenberger, 2003; Hendrick et al., 2007), and to identify new forms of local government activity – many of which are viewed as innovations – which could assist in maintaining the fiscal health of the communities under the condition of fiscal strain (Levine, 1980; Wolman and Davis, 1980; Bryson and Boal, 1983; Bryson and Roering, 1988; Clark, 1999). This leads to the conclusion that fiscal difficulties faced by U.S. localities stimulated their governments to innovate.

However, from the perspective of the literature on innovation, 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.

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Given these two sets of arguments, the intricate question arises as to whether or not the availability of financial resources represents a crucial factor for innovative activity implementation in local governments.

So far, public finance scholars have neither succeeded in adequately integrating their fiscal health evaluation efforts with the expanding body of research on innovation, nor in answering the above posed question. According to Rogers (1995), only a few of the studies had focused on the relationship between a local government's fiscal conditions and its innovative behavior by the time his literature review was completed. 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, none of the existing studies had investigated in depth the nature of this relationship for city government, even though they are often viewed as the leading studies in local government innovative practices (Osborne and Gaebler, 1992). Investigating the effects of financial resource variability on innovation in local government is particularly appealing given the high diversity of the local government contexts, which include but are not limited to the differences in jurisdictions tax bases and structures, institutional arrangements, community size, and form of government.

This study aims to examine the effects of some U.S. city governments' fiscal environments on the degree of innovation implemented by these governments. More precisely, this research will analyze how the variation in these governments' abilities to meet their financial and service obligations affects the degree of their performance measurement (PM) system implementation. These research findings will contribute to a better understanding of the transformational activities and management issues that 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 innovate 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 inquiries.

2 Conceptual Framework

2.1 Fiscal Austerity Alleviation Literature

Following fiscal crises, such as one like New York City's in 1976, major efforts were made to identify new forms of local government activity that could alleviate fiscal austerities (Clark, 1999). Under the condition of revenue decline, the need for a series of managerial strategies arose, so that the jurisdictions could adapt to changes in their socio-economic base.¹ The acquisition of additional revenue, a reduction in demands for services, productivity improvements, an increased reliance on the private sector, and an increased reliance on individual citizens, cost-cutting and reduced service levels are named in the literature among the basic, fairly consistent responses of local authorities to the financial instability in their governed jurisdictions (Lewis and Logalbo, 1980; Pammer, 1990). As a result of its studies on cities around the world, the University of Chicago Fiscal Austerity and Urban Innovation (FAUI) Project (1982) documented about 30 strategies adopted by local governments.

However, as the literature on public finance demonstrates, top priority was given to productivity improvement by many local government practitioners as a measure of fiscal austerity alleviation. A number of publications on the subject by Holzer (1980), the International City Management Association (ICMA, 1990), and General Accounting Office (1978) demonstrate this fact. Poister and Streib (1999) were among the first to voice the necessity of examining productivity improvement in the municipal context. They pointed out that municipal government culture is shifting toward a greater emphasis on "performance, managerial direction and

¹ Much of the strategic management literature assumes managerial strategies to be functional plans designed to alleviate problems in the environment in order to assure short-term adaptability and long-term survival (Glueck, 1972; Hambrick, 1981; McGowan and Stevens, 1983).

control, informed decision making, and professionalism," (Poister and Streib, 1999: 325) but empirical research lacks the evidence to explain this shift. Hence, the rationale for this research is to focus on productivity improvement measures as a tool used by U.S. local governments for fiscal austerity alleviation.

2.2 Innovation Research

Innovation research was undertaken by social scientists in a wide variety of disciplines, including anthropology, sociology, organization theory, economics, and political science. Nonetheless, only a few focused on the relationship between local government fiscal health and innovative behavior. None of the studies 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). Moreover, the diversity of local 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 the local government 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.

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.

If, following 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 municipalities be expected to be more innovative than nonfiscally stressed 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 the fiscal health of U.S. municipal governments in North Carolina and the scope of adopted innovation by these governments. For the purpose of this research, innovation is defined as an idea, practice or object perceived as new or different to the adopting unit regardless of whether or not this idea is objectively new since its first use or discovery (Rogers and Kim, 1985).

2.3 Performance Measurement as Innovation

As previously discussed, productivity improvement as an innovation was given top priority by local government practitioners in their responses to the experienced financial instabilities. This fact is not surprising since by definition the concept of productivity improvement is inclusive and, thus, appears to be well-integrated in many of the government response strategies previously mentioned, i.e. additional revenue acquisition, increased reliance on individual citizens, and cost-cutting.

Similar to the inconsistency in perspectives regarding the relationship between fiscal health and innovation, there is no conclusive evidence in the literature on whether productivity improvements in local government are obstructed or stimulated by fiscal stress. On the one hand, McGowan and Stevens (1983) indicate

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that productivity improvement at the local government level may be far more difficult under fiscal stress.² This view is also supported by May and Meltsner (1981) in their study of California's Proposition 13 tax limitation - implemented as a productivity improvement measure. On the other hand, Stipak and O'Toole (1993),³ and MacManus (1984) consider fiscal strain to be 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). Differences in these academic perspectives are largely explained by the characteristics of the examined innovations and particularly the differences in the incentives for their adoption.

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). Hence, it is important to also consider the determinants of performance measurement advancement in local governments. Public administration literature names the following three major facilitating factors for performance measurement implementation: 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 (Streib and Willoughby, 2005); 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; Willoughby and Melkers, 2001).

This paper will focus explicitly on the importance of the first factor, i.e. government resource availability, for innovation implementation in a government.

² This fact may be viewed as another argument in support of the argument that productivity improvement is a good proxy for the study of local government innovation.

³ Stipak and O'Toole (1993) chose the statement "Managers may use fiscal stress to increase productivity" as an epigraph to their article in PAR.

2.4 Policy Diffusion Literature

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 literature on policy diffusion.

The argument exists within the literature on policy diffusion that characteristics of innovation matter at the level of adoption and implementation (Mossberger, 2000: 121-122). Rogers (1995) in his famous study on the diffusion of innovations identified five major characteristics of innovation that explain the different rate of adoption: 1) relative advantage – the degree to which innovation is perceived as better than the idea it 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.

In her study on the diffusion of policy labels, 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 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 that 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 study.

3 Research

3.1 Research Goals

This literature review demonstrates that examining the effects of variability in local government fiscal health on its ability to innovate is important for many reasons. First of all, there is no distinct integration between the body of research on local government fiscal conditions and innovation studies. Second, the existing research on innovation presents sharply divided perspectives on the importance of financial resources for implementing innovative practices. As a result, a demand has been created to improve our understanding of the relationship between finance and innovation (O'Sullivan, 2005). Third, the research findings will help us learn more about cities' incentives to innovate or to hold back their initiatives.

This study sets out to examine how the fiscal health of some U.S. cities affects these governments' decisions to adopt performance measurement as an innovative practice, and to investigate the importance of slack resources availability as a government incentive to innovate.

3.2 Research Questions

- 1. Are fiscally healthy city governments more likely to engage in innovation than fiscally stressed city governments, i.e. does city fiscal stress lead to innovation?
- 2. Does the innovation behavior of governments with slack resources differ from those without such resources? i.e. Do the governments with different levels of slack recourses find themselves at different stages of innovation implementation?

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3.3 Data

This study used information from two large Government Financial Officers Association's (GFOA) databases. The first database was collected as a result of 2004 National Performance Measurement Implementation Survey of all cities (with the populations over 25,000) and counties (with the populations over 75,000) in the U.S. The other database includes information from the 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). Additional economic, demographic, and financial data were taken from the U.S. Census Bureau Data for Governments, CAFRs, and statutory and regulatory documents of the governments under consideration. A random sample of 18 cities with populations above 25,000 people in the state of North Carolina was taken for the analysis in order to include jurisdictions that employ performance measurement and those that do not.

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4 Methodology

4.1 Fiscal Health Measures

Since 1970s and 1980s, a few approaches for measuring local government fiscal capacity have been developed in the U.S. Four major systems are broadly used by academics and practitioners: City Wealth and Functional Performance Indices developed by Clark and Ferguson (1983); modification, which was proposed by Hendrick (2004) in her study of Chicago suburban municipalities; Representative Tax System (RTS) (ACIR, 1962) improvement, which was developed by Ladd and Yinger (1989) to include tax burden on nonresidents and by Tannenwald (1999) to take into account user charges; the Financial Trend Monitoring System (FTMS), designed by the International City/County Managers Association (Groves, Godsey and Nollenberger, 2003); and the Ten Point Test of Financial Condition for smaller governments, offered by Brown (1993) and GFOA.⁴

Some of these measures have focused primarily on environmental factors, such as poverty and property values (Clark and Ferguson, 1983), or analyzed "group norm" (RTS) or selected indicators, such as revenue and expenditure, operating position or future liabilities (FTMS). Others have looked into fiscal need (Congressional Budget Office, 1978) or the fiscal strain index (U.S. Department of the Treasury, 1978), or suggested referring to an estimated standard (ACIR, 1962; Ladd and Yinger, 1989) while assessing the fiscal conditions of local governments. A review of the main four systems of fiscal condition measurement - their strengths and weaknesses - is provided in the Appendix 1.

The above listed approaches employ, sometimes interchangeably, a variety of terms such as "fiscal condition," "fiscal health," "fiscal stress," "fiscal strain," "fiscal comfort" and/or "fiscal disparity,"⁵ 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). This study focuses exclusively on the concept of the fiscal health of U.S. local governments which is generally defined

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⁴ See Table A.1 in Appendix 1 for a brief description of the systems - their strengths and weaknesses.

⁵ See Tannenwald (1999).

here as the ability of government to meet its financial and service obligations. The definition is built on an ecological and systems view of government that recognizes different types and time frames of fiscal health. This view has been shaped in the course of numerous efforts of the fiscal policy analysts to estimate the fiscal condition of U.S. localities at the end of the last century (Hendrick, 2004). The developed measure of fiscal health represents a composite of three main dimensions of the fiscal health of a government - spending needs, revenue wealth, and balance with the environment, which are grouped into external health and fiscal balance indicators.⁶ These indicators are developed using the fiscal, economic and demographic data of 18 cities in North Carolina, U.S. for three different periods of time: 1990, 2000 and 2005. The current section discusses each of the dimensions.

The measures of external health in this research are represented by own-source revenue wealth (i.e. a government's capacity to generate revenue) and spending needs, for which separate indicators were calculated and then combined into a single indicator of the external fiscal health index. Revenue wealth is computed using equalized, assessed value of the property (EAV) per square mile, income per capita, and sales receipts per capita variables. The sources of own-source revenue for the selected cities in North Carolina are property tax; sales tax; non-tax revenue such as licenses, fees and charges; and other tax revenues. Property tax capacity is measured as EAV per square mile, and sales tax capacity - by sales receipts per capita. Given that much of non-tax revenue and other taxes may be exported to nonresidents, income per capita may be the most appropriate measure of this type of revenue capacity (Berne and Schramm, 1986). The revenue wealth index is created by converting the three component variables into z-scores and then summing the values.

The spending needs index is a composite of the following four variables: median age of housing, crime per capita, population density, and whether a city is in a fire

⁶ This methodology is developed following Hendrick's (2004) approach in her study of Chicago suburban municipalities, which is largely based on Clark and Ferguson's (1983) technique of measuring fiscal strain of the U.S. cities. Clark and Ferguson's fiscal strain indicators include fiscal policy outputs of city government as numerators (general (total) expenditures, own revenues, common function expenditures, and long-term debt), and private sector resources (income and long-term debt) as denominators: Urban Fiscal Strain = City government spending and debt/Private sector resources.

district.⁷ Prior research shows that the crime rate is a good general indicator of public safety expenditures (e.g., police and fire), and the age of housing is often used to measure infrastructure maintenance needs (Clark and Ferguson, 1983). Population density is a good measure for estimating service needs for the economies of scale: as the population density increases, the service delivery costs decrease (Berne and Schram, 1986). Similar to the revenue wealth index, the spending need index is created by converting the four component variables into z-scores and summing the latter.

The environmental or external fiscal health index is created by subtracting the rank-order of each city on the need index from the rank-order of each city on the wealth index. This technique is preferred to the simple use of z-values as a means to remove the distributional effects associated with extreme values and outliers in either the wealth or need index. Essentially, the use of rank-orders rather than interval scaling "relaxes assumptions about the measurement precision of the component variables in the final index" (Hendrick, 2004: 94).

The indicator of a city's fiscal structure balance with its environment estimates how much of the existing revenue resources in its environment are used and if its government provides an adequate level of services to the community. This indicator is calculated as 1) the ratio of own-source revenues to city wealth (a measure of revenue burden)⁸ and 2) the ratio of expenditures to the government needs⁹ (which reflects the extent to which a government is providing the appropriate level of services). A composite index of fiscal health is created by subtracting the expenditure-need index from the revenue wealth index. The measures of cities' fiscal health for three different time periods (1990, 2000 and 2005) is analyzed in terms of their effects on the scope of innovation (i.e. performance measurement) implementation by the city government.

⁷ Given that U.S. cities that are in a fire district have substantially reduced spending needs for salaries, equipment, and pension obligations.

⁸ The ratio of a government's revenues over which it has control to the value of its resource capacity (or wealth indicator in our case) is often referred to as a measure of revenue burden (revenue burden = own-source revenues per capita) i.e. the tax effort that a government places on its revenue sources.

⁹ The higher the expenditure/need ratio, the more service needs are met, although the quality of the services provided is not captured by this measure.

Slack resources are viewed in this study exclusively in budgetary terms, i.e. as the excess of financial resources available over the required costs (Cyert and March, 1963; Wolman, 1986), and are presented as a percentage amount of unreserved fund balance in the government total expenditures.¹⁰

4.2 Measuring Innovation

It is a commonly accepted practice that productivity improvement is often estimated by means of measuring performance. Public managers use performance measures to evaluate, control, budget, motivate, learn and improve. According to Osborne and Plastrik (2000) performance measurement assists officials in holding organizations accountable and in introducing consequences for performance while providing managers with the data they need to ameliorate performance.

Taking performance measurement implementation in U.S. local governments as a proxy for measuring innovation, this research uses the data from a national survey on performance measurement use in U.S. localities (cities and counties) that was conducted by the Government Financial Officers Association (GFOA) in 2004. One thousand one hundred and sixty-nine cities with populations over 25,000 responded to a telephone survey, providing information on the performance measurement use in their jurisdiction. Only 36 percent of the surveyed cities responded positively to the question about whether they use performance measures. Fifty percent of the surveyed cities did so in North Carolina.

The scope of innovation score is developed in the course of this study, building upon the assumptions found within the literature on innovation and policy diffusion, which was discussed in the previous sections of this paper. Berry and Berry (1990), Walker (1969), and Tolbert, Mossberger and McNeal (2008) argue that the most important dimension for measuring policy innovation is represented by the scope of its implementation, i.e. the quality and the level of sophistication of the newly adopted activities. For instance, some cities may adopt performance

¹⁰ Unreserved fund balance is used as a rainy-day fund to help balance the budget during times of fiscal stress (Bahl, 1984; Gold, 1986).

measurement earlier than others, but if the early-adopters refrain from developing more sophisticated measures - from incorporating measurement results into their improvement strategies or from promoting active citizen participation in performance measurement process - the scope (or the breadth) of their innovation implementation may be much narrower than the scope of implementation by lateadopters who worked more intensively during a shorter period of time, developed more advanced measures and achieved higher levels of productivity as a result of the level of integration of these measures. Hence, the rationale for this research is to focus on the measure of the scope of innovation.

4.3 Measure of the Scope of Performance Measurement Implementation

Following the above provided assumptions and guidelines developed by ICMA's Center for Performance Measurement; building on Savage (1978); and borrowing from Berman and Wang's (2000) methodology that emphasizes the importance of the quality of the developed performance measures and value of citizens involvement, the author of this study has developed a scale for evaluating the scope of performance measurement use in a city government (see Appendix 2) based on the answers the survey respondents provided to the survey questions. The highest score a city can obtain based on this scale is 20, the lowest is 0. A jurisdiction which, for example, has a score of 12 out of 20 has a scope-of-adoption score of (12/19) = 0.6.

4.4 Validity Issues and Future Research

There are three major limitations of this study. The first one is embedded in the fact that the risk of "chance associations and systematic biases," (Maxwell, 2005: 112) is present in the case of using survey data. For this reason, the accuracy of information obtained from a diverse range of individuals is verified by referring to existing city financial reports and other archive documents.

Second, while the proposed model can be replicated for fiscal health and innovation studies of local governments in all American states, the components of this model may require adjustments given the differences in the economic, structural, and institutional characteristics of the localities. Recommendations for such adjustments should be provided individually to the interested governments based on their economic base and tax structure.

Finally, given the focus of this research - explicitly on the importance of the availability of government financial resources for its ability to innovate - the concept of slack is defined in budgetary terms, i.e. slack is viewed as the excess of financial resources available over the required costs. According to Wolman (1986), slack can also be considered in terms of organizational resources, which in addition to financial resources include human and physical resources. Examining the importance of organizational slack for city governments' abilities to innovate may become an interesting subject for future research. Further in depth investigations of city political environments could reveal more determinants in the nature of the link between government fiscal health and its innovative abilities.

4.5 Research Findings and Conclusions

The findings of this research demonstrate that, in general, higher values of the fiscal health index are associated with higher innovation scores in cities in North Carolina (Figure 2). This trend is particularly true for such cities as Hickory, High Point, Jacksonville, Kannapolis, Salisbury, and Winston-Salem. Moreover, smaller fluctuations in the fiscal health index within three analyzed periods of time (FYs 1990, 2000, 2005) are associated with larger scopes of performance measurement implementation in the related governments. Simultaneously, city governments like Durham, Gastonia and Greenville which demonstrate a comparatively high average index of fiscal health have not adopted performance measurement as an innovative activity at all. The answer to the question of 'why' in this case is to be provided in future in-depth studies on the cities' economic, financial, institutional, and leadership features.



The positive association is less traceable for the relationship between the external health indicator (needs subtracted from city wealth) and the scope of innovation (Figure 3).



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Some cities, while having lower average indices of external health for the three analyzed time periods, demonstrate higher degrees of innovation implementation, e.g. High Point, Hickory and Salisbury; others show low scores for the scope of innovation while enjoying higher external health indices, e.g. city of Raleigh. This leads to the conclusion that the inclusion of local government revenue and expenditure indicators (which are included in the fiscal health index) is important for the positive association between fiscal health and the scope of government innovation.

The question whether or not city government revenue and expenditure levels could be regarded as more important determinants of the scope of performance measurement innovation implementation than city wealth and needs is investigated in the analysis of the consecutive Figures 4 and 5. These figures demonstrate that a more stable, positive relationship exists between the degree of adoption of a performance measurement system as an innovative activity and the revenue/wealth ratio than between the scope of performance measurement implementation and the expenditure/needs ratio in all cities in North Carolina that use performance measurement. Furthermore, higher revenue/wealth ratios in 2000 are more consistently associated with higher scores of innovation in the cities in North Carolina that have implemented performance measurement as an innovative activity. Those cities that have not adopted performance measurement as an innovative activity generally have a lower revenue/wealth ratio than the cities that use performance measurement.

Since the ratio of a government's revenues over which it has control to the value of its resource capacity (or wealth in our case) is often referred to as a measure of revenue burden, we may conclude that the cities in North Carolina that place a higher tax burden demonstrate higher degrees of innovation implementation in their governed jurisdictions.



The expenditure/need ratio (Figure 5) generally shows an opposite tendency in its association with the score of the scope of innovation to the one observed between revenue/wealth and the scope of innovation. The higher expenditure/need ratios for the cities in North Carolina are associated with innovation implementation and vise versa. The balance of spending with needs is meant to reflect the extent to which a government provides the appropriate level of goods and services (i.e. the higher the ratio of spending to need, the more cities are meeting the service needs of the community). Thus, those city governments in North Carolina that provide more services to their citizens (with no guarantee that the quality and type of services correspond to the community requirement) are more reluctant to implement a performance measurement system as an innovative activity. This phenomenon could be explained by the way that higher expenditure/need ratios may also indicate that the city is providing unneeded goods and services rather quality than better services. Since performance measurement system implementation is a tool that may reveal this kind of government inefficiency, city administrators prefer not to adopt the latter.

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Availability of slack resources is important for innovation implementation in city governments in North Carolina (Figure 6).¹¹ At the same time, the amount of these resources in a government appears to matter little for the level of performance measurement implementation in a city given the inconsistencies in the association of these two indices.

These observations allow for the conclusion that fiscally healthy city governments in North Carolina with populations of more than 25,000 people are more likely to engage in innovative activities than fiscally stressed city governments. In other words, the proposition that city fiscal stress leads to innovative behavior is not justified by this research. The innovative behavior of governments with slack resources differs from the behavior of those without such resources, i.e. cities with the lowest slack index have not adopted innovative activities at all. Higher slack index indicators are usually associated with some stage of innovation implementation (although without any traceable consistency). At the same time, some cities with a higher than average slack index can be found in the group of performance measurement non-adopters.

¹¹ At this point of the analysis of city government environments, it is assumed that other factors than slack resources availability are responsible for performance management non-use in the related cities.



Further investigation of the reasons for these phenomena is needed in order to answer the question raised in the course of this research. Increasing the number of sample cities under consideration will allow for the utilization of more complex and statistically rigid research methods as well as the inclusion of a variety of control variables.

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Appendix 1

Table A.1		
Systems	Description	Weaknesses
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; 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: a) does not capture individual variations in residents' incomes, b) does not reflect the difference in tax policies regarding exported taxes; focuses on factors that are generally outside the immediate control of local government; data collection difficulty.
Clark and Ferguson (1983)	 defines fiscal condition as the extent to which a government has achieved a state of balance with its fiscal environment; city wealth index; financial performance index. 	 per capita measures distort the picture in highly commercial or industrial municipalities; does not account for significant levels of own-source revenues from sales taxes; 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.
Representative Tax System (ACIR, 1962)	- uses the normal (median or average) tax rates of an area to determine the amount of total revenue a government in that area could obtain if it taxed at these "normal" rates.	 includes 26 revenue bases in a government's revenue capacity calculation regardless of whether government actually collects that form of revenue; the measure is not suitable for time series or pooled cross section/time series analysis for the reason that the data used for the ideal base estimation are not comparable across time to assess the absolute amount by which the state's tax base has changed; many states are able to impose higher than "standard" RTS rates but this fact goes unnoticed; depicturing fiscal specifics of an individual locality is problematic unless it is considered in a group of other governments; consequently, the fiscal condition of a locality is potentially distorted in a way that it would vary with the fiscal characteristics of the governments that are included in the group under analysis.
The Financial Trend Monitoring System (ICMA, 2003)	 focuses exclusively on changes in fiscal position over time; presents numerous indicators in six different areas of fiscal health; allows for examination of the indicators over time. 	 is not very useful for assessing financial condition across many governments; does not indicate how financial conditions in one government compares to others; difficulty in data collection.
Ten Point Test of Financial Condition (GFOA, Brown, 1993)	 identifies ten fiscal measures in four basic areas of analysis combining them into one composite measure of fiscal health. 	 not sensitive enough to adequately distinguish between different levels of financial condition; not appropriate for very small cities or large metropolitan areas.

Appendix 2

Performance Measurement Score

1. Do you use performance measures?			
NO0			
YES1			
2. Do you have an established review-process of the performance measurement			
data?			
NO0			
YES1			
3. Are managers/departments held accountable for results to the executive?			
NO0			
YES1			
4. How often do you look at performance measures data?			
- monthly, quarterly2			
- annually, semi-annually1			
5. Do you use scorecards in measuring your performance?			
NO0			
YES1			
6. Do you use bench targets in performance measurement?			
NO0			
YES1			
7. Do you use bench-timing in performance measurement?			
NO0			
YES1			
8. Do you employ standard performance measures in the process?			
NO0			
YES1			
9. Do you share performance data with other jurisdictions?			
NO0			
YES1			
10. Do you use performance measurement data in the budgeting process?			
NO0			
YES1			
11. Are the performance measurement data included into your budget			
document?			
NO0			
YES1			

12. Do you produce a separate performance report?	
NO0	
YES1	
13. What is the primary way you report data?	
Budget1	
Strategic plan, other1	
14. Do you involve citizens in developing measures?	
NO0	
YES1	
15. How would you rate the performance measurement system that is in place	
at the moment? (Scale 1 to 5)	
1-31	
4-52	
16. Does your city have any performance measurement related awards?	
NO0	
YES1	

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