THE GREAT RECESSION, CITIZEN PARTICIPATION, FISCAL RETRENCHMENT, AND FISCAL RECOVERY: THE APPLICATION OF A DEMOCRATIC FISCAL DECISION MAKING SYSTEM

By

Ji Hyung Park

A DISSERTATION

Presented to the Graduate College at University of Nebraska

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy

Major: Public Administration

Under the Supervision of Dr. Carol Ebdon

Omaha, Nebraska

April 2016

Supervisory Committee:

Carol Ebdon, Ph.D.

Craig Maher, Ph.D.

Robert Blair, Ph.D.

Paul Landow, Ph.D.

ABSTRACT

THE GREAT RECESSION, CITIZEN PARTICIPATION, FISCAL RETRENCHMENT, AND FISCAL RECOVERY:
THE APPLICATION OF A DEMOCRATIC FISCAL DECISION MAKING SYSTEM

Ji Hyung Park

University of Nebraska, 2016

Advisor: Dr. Carol Ebdon

Since the Great Recession, many scholars in the area of public budgeting and finance have asked a question: 'What is the new normal for local financial management?' (Martin, Levey, & Cawley, 2012). The fiscal shock from a decrease in major taxes during the Great Recession enforced local governments to implement fiscal retrenchment strategies that may lead to conflicts from resource scarcity. Although it appears to be an important time to use citizen participation for local governments to manage conflicts in fiscal decision making, the existing frameworks are limited to Levine's fiscal decision system that emphasizes resource scarcity and interest groups. Consequently, the new normal for local financial management is an important issue to interpret an emerging fiscal decision making process under the severe condition of fiscal environments such as the anti-tax mood, government cynicism, and strong labor unions.

The purpose of this study is to find the democratic financial management system. Particularly, I suggested the democratic fiscal decision making system to examine; (1) how fiscal stress led to participatory budgeting during the Great Recession; (2) how citizen participation played a crucial role in helping local governments to make different fiscal

retrenchment decisions to overcome fiscal stress during the Great Recession; and (3) how fiscal retrenchment strategies as a result of citizen participation contributed to fiscal health of local government. To generalize the democratic fiscal decision making system, three hypotheses were proposed: (1) *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel*; (2) *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies;* and (3) *Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health.* The results support the second hypothesis, and partially support the first and third hypotheses.

Dedication

To my wife, Jihye Shin, thank you for walking beside me on this journey. I love you because you are always there for me. I would not have been able to complete this dissertation without her continuous love and encouragement.

Acknowledgement

Though the following dissertation is an individual work, I could never have reached the heights or explore the depths without the help, support, guidance and efforts of a lot of people. I would like to express the deepest appreciation to my committee chair, Dr. Carol Ebdon for her full support, expert guidance, understanding and encouragement throughout my study, research, and life. Without her incredible patience, and timely wisdom and counsel, my dissertation would not have been possible. I will go the way of her attitude and personality in my future academic career and life. I am deeply indebted to my mentor: Dr. Craig Maher supported and guided me throughout this project. His advice on research and life always helps me to overcome hardships during my doctoral years. My deepest gratitude also goes to the other committee members: Dr. Robert Blair, Dr. Paul Landow, and Dr. Ken Kriz reviewed the dissertation and provided constructive comments. I would like to extend my sincere thanks to all the faculty members for excellent courses, comments, and helps in the School of Public Administration at University of Nebraska at Omaha: Dr. Gary Marshall, Dr. Christine Reed, Dr. Dale Krane, and Dr. Angela Eikenberry.

A very special thank you to my family: Seojin Park, my lovely daughter, Junok Kim, my mother, Homin Shin, my father-in-law, and Sookja Jeong, my mother-in-law for their unwavering support and encouragement.

Contents

List of Figures

List of Tables

Chapter 1: Introduction

The Great Recession from May 2007 to October 2009 was different from other economic recessions. While the sudden collapse of U.S. stock market prices led to diminished sales and income tax bases during the Great Depression, the deep housing bubble caused a decrease in local major financial resources from sales, income, and property taxes during the Great Recession (Grusky, Western, & Wimer, 2011). The U.S foreclosure start rate more than quadrupled during the Great Recession (MBA, 2010). As the Bureau of Labor Statistics (BLS, 2012) announced, the Great Recession resulted in a sharp increase in the U.S. unemployment rate from 4.4 to 10.1 percent from 2008 to 2009. Shrinking tax bases as a result of this economic condition made it difficult for local governments to maintain their current level of public services.

The local financial difficulty was exacerbated by intergovernmental relationships and taxpayers' cynicism about local financial management. During the Great Recession, the federal and state governments cut intergovernmental revenues and grants without waivers of ongoing public service programs; furthermore, taxpayers, who perceive that local governments do not deliver public services with fair tax rates, limited local fiscal decision makers' attempts to make fiscal choices for fiscal recovery in that period (Martin, Levey, and Cawley, 2012). Consequently, these circumstances forced localities to make painful decisions on fiscal retrenchment strategies such as increased taxes, public service cuts, layoffs, and benefit reductions (Bozeman, 2010).

The U.S. economic condition appears to have recovered by 2014. According to the Bureau of Labor Statistics (BLS, 2014), the U.S. unemployment rate decreased from 10.0

percent in 2009 to 5.6 percent in 2014. The 2014 City Fiscal Conditions report declared that the fiscal capacity of municipalities has recovered to the pre-Great Recession level (McFarland & Pagano, 2014). Despite the general recovery of the U.S. economy, some local governments are still stuggling with financial difficulty regarding pension liabilities, tax policies, and capital spending during the Great Recession (Fudge, 2014). There are variations in local fiscal recovery, but it is not clear why some local governments are still suffering from fiscal stress and others successfully recovered their fiscal health. Moreover, we know little about the best financial management strategies for local governments to overcome their fiscal stress during the Great Recession.

Bozeman (2010) pointed out that many studies on fiscal retrenchment have been restrained to Levine's (1981) fiscal decision system that emphasizes limited decision actors such as interest groups and public finance officers (e.g., Behn, 1980; Bahl & Duncombe, 1992). Hence, the existing fiscal decision making frameworks do not entirely explain how governments implemented fiscal retrenchment strategies in response to the Great Recession (Bozeman, 2010). Meanwhile, Pandey (2010) argues that literature on fiscal retrenchment does not reflect publicness of fiscal decision making but explains the adoption of fiscal strategies only with business perspectives. Fiscal stress encourages decision makers to focus on citizen input for painful decisions on public service cuts and revenue-raising (Ebdon & Franklin, 2006). Many scholars have suggested the need for citizen participation to manage conflicts of fiscal policies in a decision making process (Berman, 1997; Robbins, Simonsen, & Feldman, 2008; Zhang & Liao, 2011; Franklin, Ho, & Ebdon, 2009). Citizens may accept new tax policies as a result of citizen participation playing a crucial role in improving their trust in government (Berman, 1997). Fiscal decision makers who face complicated spending

and taxing decisions related to public service delivery and tax rates may resolve conflicts derived from limited financial resources by using information about public service priorities and taxpayers' willingness to pay additional taxes through citizen participation (Robbins et al., 2008).

Citizen participation may prevent tax revolts caused by public service cuts, revenue-raising, and reorganization of spending priorities to overcome fiscal stress (Zhang & Liao, 2011; Franklin et al, 2009). Several cases have shown that participatory fiscal decisions have contributed to fiscal recovery by means of the implementation of controversial fiscal retrenchment strategies (Hoppe, 2014; Reed, 2014; Saintamour & Huggler, 2010). Although there are known cases where local governments use citizen participation in financial decision making to overcome fiscal stress, the existing literature has focused primarily on Levine's (1980) fiscal decision making framework that fails to incorporate citizen participation. Moreover, the cases cannot be generalized to highlight a democratic fiscal decision making system and little research has examined a theoretical linkage between the Great Recession, citizen participation, fiscal retrenchment, and fiscal recovery. Thus, this study addresses the following research questions by suggesting a democratic fiscal decision making system based on systems theory.

The first research question for this study is "Did fiscal stress lead to participatory budgeting during the Great Recession?" The Great Recession broadly affected citizens' lives as local governments with poor fiscal health may not have had sufficient funds to maintain the high quality of public services in areas such as public schools, transportation, fire and emergency, and police departments. This relationship between fiscal health and citizens' lives brings up the issue of decision legitimacy in implementing fiscal retrenchment strategies that

may lead to public service cuts and reductions (Martell & Kravchuk, 2012). Local governments with fiscal stress may have facilitated citizen participation to implement fiscal retrenchment strategies for fiscal recovery during the Great Recession because of citizens' role to legitimate government decisions (Morgan, England, & Pelissero, 2007). Systems theory suggests that, to improve the quality of decision making and the effectiveness of outputs and outcomes, government will adopt citizen participation as a means to communicate public decisions with citizens (Schmidt, 2013). This research expects that fiscal stress is associated with local governments' willingness to use citizen participation in the budget process during the Great Recession. This research question will contribute to the literature on citizen participation by examining the effect of fiscal stress on democratic financial management behaviors of local governments during the Great Recession.

The second research question for this study is "How did citizen participation play a crucial role in helping local governments to make different fiscal retrenchment decisions to overcome fiscal stress during the Great Recession?" Jimenez (2014) demonstrated that local governments with greater commitment to citizen participation tend to adopt high conflict-oriented fiscal retrenchment strategies on the expenditure side, but not on the revenue side; however, he ignores that most local governments simultaneously implemented both revenue and expenditure fiscal decisions regarding layoffs, benefits, public service cuts, capital projects, and revenue-raising. Systems theory suggests that citizen participation will enhance government competency and provide decision legitimacy to governments to manage conflicts of policy decisions (Schmidt, 2013). This research expects that local governments with a commitment to citizen participation tended to use a higher conflict-oriented composition of fiscal retrenchment strategies. This research question will contribute to the literature on

citizen participation and fiscal retrenchment by examining the effect of democratic governance on fiscal decisions.

The third research question for this study is "How did fiscal retrenchment strategies as a result of citizen participation contribute to fiscal health of local government?" The adoption of fiscal retrenchment strategies may vary depending on the extent to which local governments are willing to engage citizens in fiscal decisions (Hoppe, 2014; Saintamour & Huggler, 2010). Although this variation may determine the fiscal health of local governments, the existing literature on fiscal retrenchment does not provide a firm conclusion on the relationship between the composition of fiscal retrenchment strategies and fiscal health. Systems theory suggests that government decisions based on interactions with citizens will result in a variation in outputs (Schmidt, 2013). This research expects that local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health. The third research question will contribute to systems theory by suggesting a democratic decision making framework and its effects on outputs, and to the literature on fiscal health, fiscal retrenchment, and citizen participation by identifying the role of citizen participation in the budget process.

According to Governing data (2014), 2,710 municipalities have been eligible to file for bankruptcy since the Great Recession; among these municipalities, only 1.7% or 47 actually filed for bankruptcy, while the remaining municipalities could not file because states did not allow for it. The remaining municipalities might implement fiscal retrenchment strategies to overcome their financial difficulty under the severe condition of fiscal environments such as the anti-tax mood, government cynicism, and strong government labor

unions since the Great Recession. This study is an effort to show how citizen participation played a role in helping local governments implement controversial fiscal retrenchment strategies for fiscal recovery during the Great Recession. This effort can benefit practitioners who try to implement successful fiscal retrenchment strategies for their fiscal health; furthermore, it can provide empirical evidence on the usefulness of citizen participation for scholars who argue that democratic governance should be applied to a local fiscal decision making process to produce desired outputs and outcomes.

This study is organized in the following six chapters. Chapter 2 reviews the literature on determinants of fiscal health and its measurements, fiscal retrenchment strategies, citizen participation, and the Great Recession, focusing on their effects. Chapter 3 reviews systems theory and applied systems theories, and introduces the democratic financial management system and its models composed of fiscal stress during the Great Recession, citizen participation, fiscal retrenchment strategies, and fiscal recovery. Also, research hypotheses will be proposed to answer the research questions in this chapter. Chapter 4 is a methodology section to discuss samples, data, research models, and variables to test the hypotheses. Chapter 5 presents findings, discussion, and implications for the research questions. Chapter 6 summarizes the findings and draws conclusions.

Chapter 2: Literature Review

The purpose of this chapter is to identify research gaps between fiscal stress during the Great Recession, citizen participation, fiscal retrenchment, and fiscal health. The following four sections of this chapter will analyze and synthesize literature on fiscal health, fiscal retrenchment, citizen participation, and the Great Recession, which serve as the foundation for the research questions.

The section on fiscal health attempts to find a possible association between citizens and fiscal retrenchment strategies, and fiscal health. This section will review the antecedents of fiscal health with structures and institutions, financial environment, and political environment in order to identify a research gap for the association, and will investigate fiscal health measurement with a single variable, multi-dimensional variables, and indexes.

The second section is intended to connect fiscal retrenchment with citizen participation as a determinant and fiscal health as an output. This section will review the types of fiscal retrenchment strategies and the implementation of fiscal retrenchment strategies.

The purpose of the section on citizen participation is to review the theoretical foundation between citizen participation, fiscal retrenchment strategies, and fiscal recovery. To locate them, this study will identify participants, mechanisms, and process and timing in the literature on participatory budgeting. It will also review the antecedents of citizen participation with structures, political culture, and population size and community diversity and citizen participation in the budget process as to whether citizen input influences budget decisions. Finally, it will investigate the role of citizens as 'fair taxpayers' or 'free-riders' in

the budget process.

The last section aims at better understanding how the Great Recession is different from previous recessions. This section will review the Great Recession literature that focuses specifically on fiscal health, fiscal retrenchment, and citizen participation at the local level. The purpose of the section on the Great Recession is to review the trend of fiscal health, fiscal retrenchment, and citizen participation since the Great Recession.

2.1 Fiscal health

2.1.1 The definition of fiscal health

There is no agreement on the definition of fiscal health. The previous studies pre-Great Recession generally focus on resource scarcity to sustain the desired quality and quantity of basic public services (Badu & Li, 1994; Benton, 1986; Clark & Appleton, 1989; Ladd & Yinger, 1989; Lin & Raman, 1998; Pagano & Moore, 1985). Several studies post-Great Recession emphasize fiscal capabilities for overcoming possible risks and uncertainty in maintaining the desired level of public service quality and quantity in general (Jacob & Hendrick, 2012; Hendrick, 2011; Justice & Scorsone, 2012). Financial condition, fiscal stress, and fiscal strain have been used as terms to capture fiscal health (Honadle, Cigler, & Costa, 2004). However, each of these terms has different emphasis on either a fiscal ability (good fiscal state) or fiscal inability (poor fiscal state).

On one hand, fiscal health and financial condition emphasize a good fiscal state to generate sufficient financial resources for service obligations (Wang, Dennis, & Tu, 2007).

Fiscal health denotes the extent of surplus financial resources compared with spending obligations (Berry, 1994). Ladd and Yinger (1989) defined fiscal health as revenue-raising capacity for local governments to generate financial resources to fully cover expenditure needs. Financial condition is not a stationary, but changeable fiscal state depending on environments; thus, it is defined as the fiscal ability that local governments have available financial resources to continuously maintain current and future service obligations to creditors, employees, citizens, and suppliers (Berne & Schramm, 1986; Lin & Raman, 1998; Wang, Dennis, & Tu, 2007; Jacob & Hendrick, 2013).

On the other hand, fiscal strain and stress emphasize a worsening fiscal state in which local governments do not have sufficient financial resources to entirely cope with possible risks and uncertainty in delivering public services (Jacob & Hendrick, 2012; Hendrick, 2011; Justice & Scorsone, 2012). Fiscal strain is an unsustainable fiscal state where local governments cannot meet the current level of public services over time (Clark, 1994; Clark & Appleton, 1989). Fiscal stress is an imbalance between revenue-raising capacity and expenditure needs due to general economic distress where local fiscal structure cannot be adapted to a change in environments (Badu and Li, 1994; Jacob & Hendrick, 2012). Fiscal strain and stress represent the fiscal inability to continuously maintain a balanced budget (Pagano & Moore, 1985).

This different emphasis generally produces variations in financial indicators to capture the fiscal state. Fiscal health and financial condition focus on 'resource abundance' as representing slack resources, unreserved funds, tax bases, and budget surplus that constitute a good fiscal state, whereas fiscal stress and strain pay attention to 'resource scarcity' as representing decreased revenues, increased spending pressure, debt, bonds, unfunded pension

liability, and budget deficits that constitute a poor fiscal state (Hendrick, 2011; Justice & Scorsone, 2012). However, there is no agreement on the best financial indicators to fully capture a good or bad fiscal state. Thus, various ways have been developed to measure fiscal health.

2.1.2 Issues of fiscal health measurement

There are three ways to capture fiscal health; (1) a single measure, (2) multi-dimensional measures, and (3) an index. A single measure is generally designed to capture the difference between revenue inflows and expenditure outflows; thus, scholars decide fiscal health with only one financial measure in this way. In an examination of fiscal health determinants, a targeted single measure may allow for a firm conclusion as to what factors contribute to fiscal health. However, a criticism is that a single measure may represent only a part of fiscal health (Maher, 2013). Multi-dimensional measures are generally designed to capture fiscal health with various angles. However, scholars may not provide a firm conclusion on determinants of fiscal health because suggested factors may have mixed effects on all dimensions of fiscal health (Clark, 2015; Wang, Dennis, & Tu, 2007; Rivenbark & Roenigk, 2011). Lastly, an index is generally designed to encompass multi-dimensions of fiscal health with a single indicator. It allows for a firm conclusion on what determinants contribute to fiscal health; however, a criticism is that all dimensions may not equally represent fiscal health in establishing the index. Thus, scholars may use a biased index (Ladd & Yinger, 1989). The existing studies have not reached agreement on the best way to measure fiscal health.

With respect to a single measure, the literature assumes that budget surplus constitutes good fiscal health; conversely, budget deficits constitute poor fiscal health in general (Krishnakumar, Martin, & Soguel, 2010; Hou, 2006; Hembree & Shelton, 1999; Gold, 1992). Hembree and Shelton (1999) argue that unreserved general fund balances enhance fiscal flexibility to cope with unexpected spending needs. Supporting this argument, Hou (2006) employed general fund balance to measure fiscal health that emphasizes budget stabilization funds and, in another way, the scale of general fund deficits has been used to measure fiscal health (Gold, 1992; Krishnakumar, Martin, & Soguel, 2010). Table 2.1.1 shows the details of fiscal health measures in these studies.

Table 2.1.1 A single measure of fiscal health

Method	Fiscal Health Indicators	Sources
Single Measure	- Unreserved general fund balances	Hembree & Shelton (1999)
	- General fund deficits	Gold (1992), Krishnakumar, Martin, & Soguel (2010)
	- General fund balance	Hou (2006)

Multi-dimensions of fiscal health have emerged with a consideration that "there is not one best way to measure or assess financial condition, and no single composite measure exists that recognizes all its features" (Jacob & Hendrick, 2012, p. 12). This consideration is based on the following issues about whether fiscal health should be considered a relative or absolute state between cities; it has an acceptance level to determine a good or poor financial state; it should be applied to long-term solvency only, short-term solvency, or both; it should be captured by only one funding source or various funding sources (Jacob & Hendrick, 2012).

10-points tests have been suggested to measure fiscal health by Brown (1993) and Kloha, Weissert, and Kleine (2005), but these two studies have different conceptualizations of fiscal health. Brown (1993) focuses on a relative fiscal position where 5 points or more represent ' better than most' or 'among the best' in sample cities, whereas Kloha, Weissert, and Kleine (2005) use an absolute fiscal position that a city with 4 points or below has good fiscal health. To capture fiscal health, Raju (2011) argued that the purpose of financial management is to achieve fiscal sustainability with a budget surplus as well as to avoid budget deficits. Raju (2011) developed various fiscal health indicators to capture the state of budget surplus and deficits; furthermore, he recognized good fiscal health with the number of budget surplus indicators (see the details of financial indicators in Table 2.1.2).

Other studies do not provide an acceptance level of fiscal health as representing either a good or bad fiscal state. They focus on multi-year, and various dimensions and funding sources. Relatively, Rivenbark and Roenigk (2011) emphasize short-term solvency in developing fiscal health indicators (see the details of fiscal health indicators in Table 2.1.2). Dollery and Grant (2011) developed fiscal health indicators that focus on solvency with short-term and long-term periods from four financial condition reports (the South Australian Financial Sustainability Review Board, the Allen report, Access Economics, and Price Waterhouse Coopers). Some studies include multi-year, and various dimensions and funding sources, suggesting multi-financial indicators with various dimensions encompassing financial position and performance, and liquidity and solvency with long-term and short-term periods as shown in Table 2.1.2 (Maher, 2013; Chaney, 2005).

Table 2.1.2 Multi-dimensional measures of fiscal health

Method	Fiscal Health Indicators	Sources
Multi-Dimensional Measures	- Per capita revenue - Total general fund revenues - General fund sources - Operating expenditures - Total fund balance - Unreserved general fund balance - Total general fund cash and investments - Total general fund liabilities - Direct long-term debt - Total debt service	Brown (1993)
	- Population growth - Real taxable value growth - Large real taxable value decrease - General fund expenditures as a percentage of taxable value - General fund operation deficit - Prior general fund operating deficit - Size of general fund balance - Fund deficits in current or previous year - General long-term debt as a percentage of taxable value	Kloha, Weissert, & Kleine (2005)
	- Unrestricted net assets as a percentage of expenses - Change in net assets as a percentage of total net assets - General revenues and transfers as a percentage of expenses - Cash, current investments, receivables as a percentage of current liabilities - Long-term debt as a percentage of assets - Change in net assets and interest expense as a percentage of interest expense	Chaney (2005)
	- Total revenue deficits - General revenue balance - General deficits - Total gross fiscal gap - Total revenue deficit as a ratio of total gross deficit - Total revenue deficit as a ratio of revenue receipts	Raju (2011)
	- Liability - Operating surplus and deficit - Net assets - Net borrowing - Capital expenditure - Interest coverage	Dollery & Grant (2011)
	- Service obligation as operations ratio - Intergovernmental ratio as dependency - Debt service ratio as financing obligation - Quick ratio as liquidity - Total fund balance as solvency - Debt as leverage	Rivenbark & Roenigk (2011)
	- Revenues per capita - Expenses per capita - Intergovernmental aid divided by total revenues - GF fund balance divided by GF Expenses - Unrestricted net assets divided by expenses - Change in net assets - Liquidity	Maher (2013)

	- GO debt divided by equalized valuation - Long-term liabilities divided by assets - Postemployment benefit liabilities	

Ladd and Yinger (1989) used an index of *revenue-raising capacity* to collect additional financial resources from property, sales, and income tax. This index is composed of population, per capita income, and assessed values that determine fiscal health. Wang, Dennis, and Tu (2007) designed an index of financial condition by embracing eleven indictors composed of four dimensions (see Table 2.1.3). Wang et al., (2007) argued that the index of financial condition is associated with socioeconomic variables regarding population, per capita income, employment, and economic momentum and change. Despite many attempts to measure fiscal health, a criticism is that the suggested three ways to measure fiscal health are limited to objective indicators; thus, there is an imbalance between fiscal health perceived by subjective indicators and measured by objective indicators (Maher & Deller, 2013). It may be difficult for scholars to fully examine budget decisions only with object fiscal health measures. Thus, subject fiscal health variables should be considered to examine the determinants of fiscal health (Maher & Deller, 2013).

Table 2.1.3 Indexes of fiscal health

Method	Fiscal Health Indicators of Indexes	Sources
Index	- Property, sales, and income tax - Per capita income - Assessed values	Ladd & Yinger (1989)
	- Cash ratio, quick ratio, and current ratio as cash solvency - Operating ratio and per capita budget deficit as budget solvency - Net asset ratio, long-term liability ratio, and per capita long-term liability as long-run solvency - Per capita tax revenues and expenditures as service solvency	Wang, Dennis, & Tu (2007)

2.1.3 The determinants of fiscal health

Fiscal outputs and outcomes are determined by decision makers' fiscal choices that reflect institutions and environments in general (Hendricks, 2011, Jacob & Hendrick, 2012; Berne & Schramm, 1986; Levine et al., 1980). There are three fiscal health theories regarding this fiscal decision system. First, efficient-oriented structures and institutions, and decentralized institutions may lead to good fiscal health. This theory assumes that fiscal policy choices of budget decision makers are constrained to purposes of current institutions and structures (Nelson & Maher, 2014; Andrews, 2013; Aikins, 2011; Morgan et al., 2007). In this theory, decision makers may choose fiscal strategies to prevent wasteful costs, spillovers, and inefficient public service provision that threaten fiscal health under efficient-oriented structures and institutions; decentralized fiscal institutions may allow decision makers to exert taxing authority to recover fiscal health.

Second, an economic boom may determine good fiscal health. In this theory, fiscal policy choices of budget decision makers vary depending on changes in the level of financial resources determined by economic condition (Hendrick, 2011; Jargowsky, 2003; Hembree & Shelton, 1999; Warner, 1999; Gold, 1992; Fox & Sullivan, 1978; Ladd & Yinger, 1989). For example, fiscal retrenchment strategies may be implemented to overcome resource scarcity as well as to maintain fiscal health during economic recessions (Levine et al., 1980).

Third, manageable political environments may lead to good fiscal health. This theory argues that fiscal outputs and outcomes rely on the extent to which decision makers fully manage current political environments in implementing fiscal policies for fiscal health (Garcia-Sanchez, et al., 2012; Hendrick, 2011). Decision makers may not concentrate on

fiscal efficiency due to political conflicts that may generate wasteful costs and spillovers in policy implementation (Morgan & Pelissero, 1980). Thus, decision makers' skills at managing conflicts from citizens, stakeholders, and interest groups are more important to maintain fiscal health than in other theories. However, we have little empirical evidence about how decision makers managed political environments in implementing fiscal policies.

Empirical findings have suggested form of government, city-county consolidation, home rule privilege, audit systems, strategic-planning and tax and expenditure limitations (TELs) as institutions and structures that determine fiscal health. Political structure studies with fiscal health have not been conclusive (Clingermayer & Feiock, 2001; Nelson & Maher, 2014). Clingermayer and Feiock (2001) found that there is little difference between forms of government and the level of fiscal health measures such as expenditures, taxes, and debt. Nelson and Maher (2014) demonstrated that form of government matters less than the role of the Chief Administrative Officer (CAO), municipalities that mayor-council governments with a CAO can acquire professional knowledge in managing public services, thereby improving fiscal health (Nelson & Maher, 2014). Hendrick (2011) found that strong mayor governments are positively associated with own-sources revenues per capita (the fiscal ability of budget solvency), but this is not statistically significant.

City-county consolidation has been found to have a negative impact on fiscal health (Andrews, 2013). TELs are one of the important determinants that influence fiscal policy choices and practices that lead to variation in fiscal health (Hendrick, 2011). As a decentralized fiscal authority, home rule privilege in Illinois has a positive impact on budgetary solvency by allowing local governments to create a new tax (Hendrick, 2011). More specifically, Illinois local governments with home rule privilege can employ revenue

diversification to increase financial resources with minimized tax revolts in overcoming fiscal stress.

Internal financial audit systems also have a positive association with fiscal health (Aikins, 2011). Based on transaction cost theory, Aikins (2011) argued that internal financial audit systems can reduce transaction costs by promoting government transparency to reduce information asymmetry. Consequently, these financial audit systems that force governments to reveal actual public service costs encourage prevention of spillovers in budget deliberations (Aikins, 2011). The finding shows that local governments with an internal audit system have less long-term debt than others.

The adoption of strategic planning can improve fiscal health by maintaining an appropriate debt level for local governments (Shelton & Albee, 2000). Later studies have empirically tested this argument that there is a positive association between the adoption of strategic planning and fiscal health. Poister and Streib (2005) found that 69% of respondents in local governments perceived strategic planning as helpful to improve fiscal health. Local governments that use strategic planning are likely to have better fiscal health because the adoption of strategic planning allows the local governments to gain more slack resources and contingency funds to cope with unexpected fiscal shocks such as Hurricane Katrina and the Great Recession (Berry, 1994; Hendrick, 2011; Jimenez, 2012).

Mixed findings have resulted from studies of the effect of TELs on fiscal health. Ladd and Yinger (1989) argued that TELs weaken fiscal health of local governments by decreasing revenue-raising capacity. However, Nelson and Maher (2014) concluded that there is a positive correlation between TELs and fiscal health because local governments

generally focus on improving efficiency if their expenditures are limited by fiscal institutions (Nelson & Maher, 2014).

With respect to economic circumstances, empirical findings suggest spending needs, revenue base, and intergovernmental relationships as determinants of fiscal health. High spending needs may lead to poor fiscal health. Fox and Sullivan (1978) conclude that increased spending needs for public infrastructure deteriorate financial condition of local governments, finding that the rapid growth of population has a positive relation to capital outlays. In the case of North and South Carolina, local governments a small population size and high spending needs tend to have a low level of general fund balance due to their fiscal inability to establish unreserved and contingency funds (Hembree & Shelton, 1999). Furthermore, a high poverty level and low per capita income have a negative impact on financial condition (Jargowsky, 2003; Ladd & Yinger, 1989). A large concentration of low income people causes a shrinking tax base that threatens local financial condition (Jargowsky, 2003).

There are empirical findings on the effect of revenue base on fiscal health. A high population is positively associated with budgetary solvency (Hendrick, 2011). Ladd and Yinger (1989) conclude that a lower per capita income has a negative relation to revenue-raising capacity (Ladd & Yinger, 1989). Urban sprawl has a negative association with the scale of tax bases due to taxpayers' movement to suburbs (Honadle et al., 2004). Garcia-Sanchez, et al. (2012) found that the scale of population has a negative connection with net debt index; Gross Domestic Product (GDP) has a positive relation to budgetary solvency.

The effect of intergovernmental revenues on fiscal health has been empirically tested

in various studies. Sub-governments cannot easily downgrade and cut current public service programs in response to a decrease in intergovernmental revenues. Indeed, public demands and pressure make it difficult for local governments to remove mandated programs with a decrease in intergovernmental revenues (Ladd, 1991; Warner, 1999). The empirical finding shows that a decrease in federal aid threatens fiscal health by reducing public spending, general fund balance, and rainy day funds at the state level (Gold, 1992); in the case of Chicago municipalities, increased intergovernmental revenues are positively associated with budgetary solvency (Hendrick, 2011).

With respect to political environment, Garcia-Sanchez, et al. (2012) conclude that Spain's largest municipalities dominated by liberal parties and politically fragmented governments are likely to have less healthy financial condition regarding budgetary solvency, service level solvency, and cash surplus index. Nonpartisan elections have a positive association with own-source revenue per capita (the fiscal ability of budget solvency), but this is not statistically significant (Hendrick, 2011). The exploration of these studies provided evidence on decision makers' skills to manage political environments regarding citizens, taxpayers, and voters in implementing fiscal retrenchment strategies to overcome fiscal stress during the Great Recession. The evidence shows that fiscal policy choices and practices vary depending on the degree to which fiscal decision makers manage political environments. Moreover, this variation may determine fiscal health in the studies. However, the studies focus only on nonpartisan elections and politically fragmented governments, but not on how to manage citizens in fiscal policy choices and practices.

2.1.4 Summary and research gaps of fiscal health

This study reviewed the determinants of fiscal health in the literature. Various studies have suggested measures of fiscal health, but no agreements have been reached. In the section of measure of fiscal health, this study found that a single measure, multi-dimensional measures, and index have been used to capture fiscal health. Scholars have employed fund balances, unreserved funds, budget stabilization funds, and total debt issuance. However, a single measure cannot fully capture fiscal health. Although various studies have suggested multi-dimensional measures of fiscal health, little research has employed them to find determinants of fiscal health. Many scholars have not used an index of fiscal health because of the concern that a particular dimension that far outweighs other dimensions of fiscal health can make the index biased.

The literature provides efficient-oriented structures and institutions, good economic circumstances, and manageable political environment as components that influence fiscal health. With respect to efficient-oriented structures and institutions, the effects of form of government on financial condition are mixed. Among institutions, home rule privilege and strategic-planning have been found to improve financial condition of local governments, but this is not the case for TELs that have had a mixed effect. With respect to good economic circumstances, the scale of local government, per capita income, and intergovernmental revenues have had a positive effect on fiscal health, while the rapid growth of population, poverty level, and urban sprawl threaten fiscal health. Two research gaps are shown in the literature on fiscal health. We know little about how fiscal decision makers manage citizens, as one of the political environments, in implementing fiscal policies as well as how this management influences fiscal outputs and outcomes. This study fills these gaps by

investigating the second and third research question: “Did citizen participation play a role in helping local governments to make better fiscal retrenchment decisions to overcome fiscal stress during the Great Recession?” and “How did fiscal retrenchment strategies through citizen participation affect fiscal recovery of local government?”

2.2 Fiscal retrenchment

2.2.1 Fiscal retrenchment strategies

Levine (1980) proposed fiscal retrenchment for various types of organizational decline: (1) the loss of fiscal discretion as political vulnerability, (2) the lack of organizational performance as organizational atrophy, and (3) the difficulty of fiscal environments as environmental entropy. It is implemented on the side of revenue-raising and expenditure cutbacks in general (Levine et al., 1981). This study focuses on the implementation of fiscal retrenchment in response to the third organizational decline.

Local governments’ revenues are composed of primarily intergovernmental revenues, user charges and fees, and taxes; thus, local governments have three strategies to raise revenues in implementing fiscal retrenchment strategies. The first strategy is to request intergovernmental revenues and grants from the federal and state governments. Another strategy is for local governments to raise public service charges and fees to respond to resource scarcity. The third strategy is to increase major tax rates as well as to create new taxes where local governments have home rule privilege and taxing authorities. Table 2.2.1 shows the detailed tactics of each strategy on the revenue raising side.

Table 2.2.1 Fiscal Retrenchment Models and Methods

Dimensions	Strategies	Tactics
Revenue-raising	Intergovernmental revenues	- Applied for grants
	User charges and fees	- Increased existing fees and charges - Added new fees for services
	Tax policy	- Increased property tax - Increased sales tax - Increased income tax - Increased or implemented new taxes
Expenditure cutbacks	Cost cutting	- Eliminated services - Layoffs - Revised union contracts - Reduced salaries - Implemented target cuts - Reduced services - Implemented across-the-board cuts
	Cost-saving	- Eliminated or reduced travel budgets - Eliminated or reduced professional development budgets - Implemented furloughs - Froze salaries - Left vacant positions unfilled - Deferred capital projects

Sources: Levine, Charles. (1980). *Managing fiscal stress: the crisis in the public sector*: Chatham House Publishers / Jimenez, Benedict S. (2014). Raise Taxes, Cut Services, or Lay Off Staff: Citizens in the Fiscal Retrenchment Process. *Journal of Public Administration Research and Theory, 24*(4), 923-953. doi: 10.1093/jopart/mut018

Expenditure cutbacks include cost cutting and cost saving strategies. For example, Table 2.2.1 shows that local governments may implement decreased public services as a cost cutting strategy and freeze salaries as a cost saving strategy. The cost cutting strategy focuses on a decrease in unnecessary costs regarding internal organizational resources and public service programs (Levine, Rubin, & Wolohojian, 1981). On the other hand, a cost saving strategy emphasizes delays in future costs regarding capital projects and maintenance as shown in Table 2.2.1 (Bell, 1975; Levine, Rubin, & Wolohojian, 1981).

2.2.2 The implementation of fiscal retrenchment strategies

Various rules have been suggested to implement fiscal retrenchment strategies (see Table 2.1.1). On one hand, it has been argued that local governments have systematic rules to implement fiscal retrenchment strategies (Levine, Rubin, & Wolohojian, 1981; Schick, 1983; Wildavsky, 1984; Wolman & Davis, 1980). Wildavsky (1984) suggested a general budget decision making rule that budget incremental during a resource expansion period. In this regard, Schick (1983) focuses on 'decrementalism' where governments may use across-the-board cuts under the condition of resource scarcity. This rule emphasizes equity and effectiveness in implementing fiscal retrenchment strategies (Plerhoples & Scorsone, 2012).

However, Levine et. al. (1981) argue that the implementation of fiscal retrenchment strategies varies depending on the level of resource scarcity. This rule has three optional fiscal retrenchment strategies for 'no growth in revenue,' 'moderate revenue decline,' and 'severe revenue decline.' They suggest that local governments generally implement the cost saving strategy encompassing defered maintenance, and use of unreserved funds and debt financing under the condition of no growth in revenues. Moderate revenue decline encourages local governments to implement the lower level of the cost cutting strategy such as across-the-board cuts for public programs, facilities, and personnel costs. Under the condition of severe revenue decline, local governments generally implement the higher level of the cost cutting strategy to reduce the scope of public services and employees as well as to terminate some public services in general. This rule has different fiscal responses to different levels of resource scarcity in order for the maximization of fiscal retrenchment effectiveness (Plerhoples & Scorsone, 2012).

In another systematic decision making theory, the implementation of fiscal retrenchment strategies varies depending on the extent to which decision makers fully manage conflicts from citizens, stakeholders, and interest groups (Wolman & Davis, 1980). This rule assumes that citizens are reluctant to pay additional taxes for revenue raising strategies as well as to cut public services for expenditure cut strategies in general (Morrison, 1980); furthermore, fiscal decision makers need to manage a strong opposition of stakeholders and interest groups, such as employee unions, in implementing expenditure cut strategies (Greenhalgh & McKersie, 1980; Wolman & Davis, 1980). Thus, under the condition of unmanageable conflicts, local governments have other optional fiscal retrenchment strategies to avoid possible conflicts: (1) receiving intergovernmental revenues allows local governments to reduce their fiscal stress without conflicts from stakeholders (Walker, 1980); (2) raising user charges and fees is based on the rationale that taxpayers perceive it is more equitable than raising taxes (Mushkin & Vehorn, 1980); (3) fiscal decision makers tend to prefer to implement cost saving strategies that minimize conflicts of stakeholders (Bell, 1975). This rule emphasizes decision makers' skills to manage conflicts in order to implement effective fiscal retrenchment strategies for resource scarcity (Wolman & Davis, 1980).

On the other hand, it has been argued that there is no systematic decision making process in implementing fiscal retrenchment strategies (Bartle, 1996; Pammer, 1990). This rule follows the garbage can model that public decisions are contingent outputs determined by uncertain decision makers who have ambiguous goals (Pammer, 1990). It is difficult for scholars to predict the logic of fiscal retrenchment implementation in this rule. Empirical studies have not reached a firm conclusion on whether a systematic decision making process

appears in fiscal retrenchment implementation as well as on what rules are more applicable to the implementation of fiscal retrenchment strategies within a systematic decision making process.

Bartle (1996) found that New York state cities did not have systematic rules to implement fiscal retrenchment strategies for aid cuts. Some studies have provided findings on the effects of socio-demographic and institutional variables on fiscal retrenchment strategies; but they do not suggest systematic decision making rules of fiscal retrenchment strategies. It has been found that local governments with a higher population and per capita income tend to avoid expenditure cuts and tax policies (Jimenez, 2014; Maher & Deller, 2006; Pammer, 1990). While Simonsen and Robbins (2000) conclude that local governments with a lower level of education attainment tend to avoid cost cut strategies, Jimenez (2014) found that a lower level of education attainment is positively associated with layoffs and targeted cuts. It has been found that local governments with a higher population of the elderly tend to implement targeted cuts; but they tend to avoid increased property taxes (Jimenez, 2014; Ladd & Wilson, 1982). With respect to fiscal institutions, Jimenez (2014) found that local governments with a higher level of fiscal limit index tend to implement cost cut strategies; but they tend to avoid cost saving strategies.

However, some studies provide empirical findings that there are systematic decision making rules to implement fiscal retrenchment strategies. The first rule suggests that there is a decremental pattern in the implementation of fiscal retrenchment strategies; thus, among cost cutting strategies, across-the-board cuts are generally used to maintain fiscal health. Lewis (1984) found that twelve major cities' revenue and expenditure patterns were incremental under the condition of good fiscal health, but these patterns were decremental

under the condition of poor fiscal health. Higher levels of perceived fiscal stress and budget deficits are positively associated with the implementation of across-the-board cuts; however, these positive relations appear in other fiscal retrenchment strategies regarding revenue-raising and targeted cuts (Jimenez, 2014).

The second rule suggests the level of resource scarcity as a determinant of fiscal retrenchment implementation. In the case of the City of Oakland, the choice of fiscal retrenchment strategies differed depending on the level of resource scarcity. The city implemented the cost saving strategy such as deferred capital projects, and froze salaries and new hires under the condition of no growth and moderate decline in revenues, but changed the implementation of fiscal retrenchment strategies to the cost cutting strategy such as deep public service cuts for fire, police, street repairs, recreation, and library systems under the condition of severe fiscal stress (Levine et. al.,1981). The scale of budget surplus is negatively associated with targeted cuts (Jimenez, 2014). This result supports the Levine et. al. rule; however, Jimenez (2014) also found that the higher level of perceived fiscal stress has a positive relation to the implementation of most fiscal retrenchment strategies regardless of their type and characteristics; indeed, as one of the economic indicators to capture the scale of government financial resources, the higher level of per capita income has a negative effect on the cost saving strategy such as defered capital projects and vacant positions.

Various studies have examined the third rule for the relationship between conflicts and fiscal retrenchment implementation. During the 1975 fiscal crisis, the City of New York, NY could not utilize the options of the cost cutting strategy, such as layoffs, due to the strong opposition of employee unions (Schachter, 1983). Kiefer, Hartley, Conway, and Briner (2014) conclude that the cost cutting strategy composed of reduced benefits and layoffs has a

negative influence on job security and satisfaction perception of employees; hence, this relationship may lead to resistance of fiscal retrenchment strategies. Rubin (1980) found that public officials' willingness to reveal information about actual costs of public services has a positive relation to the implementation of the cost cutting strategies such as layoffs and reduced benefits. Public officials who perceive pressures from interest groups tend to avoid tax policies in implementing fiscal retrenchment strategies, but this is not statistically significant (Morgan & Pammer, 1988). A higher level of full-employees is negatively associated with cost-cut strategies such as revised union contracts (Jimenez, 2014). Local governments with higher conflicts of taxpayers are more likely to implement the cost cutting and saving strategy than the tax policy strategy (Wolman & Davis, 1980; Greenhalgh & McKersie, 1980; Jimenez, 2014). It is found that local governments with a higher level of ethnic fragmentation tend to implement cost-saving strategies such as reduced travel budget and professional development budget (Jimenez, 2014). Budget decision makers are more willing to implement the cost saving model, such as capital infrastructure-downsizing, than the cost cutting and revenue raising strategy that generate conflicts from tax payers and employee unions (Peters & Rose, 1980). Jimenez (2014) concludes that local governments with more commitment to citizen participation tend to adopt high-conflict-oriented fiscal retrenchment such as layoffs on the side of expenditure cuts, but this is not the case for the tax policy strategy on the side of revenue-raising. Politically insulated governments can focus on efficiency in implementing fiscal retrenchment (Morgan & Pammer, 1988). It has been found that mayor-council governments are negatively associated with cost cut strategies such as eliminated services, targeted cuts, across-the-board cuts, and reduced services (Jimenez, 2014).

In the third rule, the tax policy and cost cutting strategy may generate conflicts of citizens, taxpayers, and employees; thus, local governments are more likely to implement uncontroversial revenue-raising and expenditure cut strategies under the condition of unmanageable conflicts. However, this conclusion may not be generalizable because most studies used the cases of particular cities. Jimenez (2014) examined the relationship between citizens and fiscal retrenchment implementation at the nation-wide local level, but provides a limited finding for this relationship only on the expenditure cut side.

2.2.3 Summary and research gaps of fiscal retrenchment

This section reviewed the models of fiscal retrenchment strategies that have been used in governments, and decision rules of fiscal retrenchment. Intergovernmental revenue, public service and charges, and tax policy strategies have been suggested to recover fiscal health on the revenue raising side. On the expenditure cutback side, governments have adopted the cost cutting and saving strategies. The literature shows that the implementation of these strategies varies depending on decrementalism, the level of resource scarcity, and conflicts of taxpayers, interest groups, and stakeholders. There are mixed findings on the implementation of fiscal retrenchment strategies. While several studies conclude that there is no systematic decision making process for the implementation of fiscal retrenchment strategies (Jimenez, 2014; Maher & Deller, 2006; Simonsen & Robbins, 2000; Bartle, 1996; Pammer, 1990; Ladd & Wilson, 1982), others provide systematic rules regarding incrementalism (Lewis, 1984), the resource scarcity level (Levine et al., 1981), and conflicts (Jimenez, 2014; Kiefer, Hartley, Conway, and Briner; 2014; Schachter, 1983; Wolman &

Davis, 1980; Greenhalgh & McKersie, 1980; Rubin, 1980; Peters & Rose, 1980). Furthermore, there is no agreement on the best rule to implement fiscal retrenchment strategies at the nation-wide local level.

This study found research gaps for the literature on the implementation of fiscal retrenchment strategies. First, it is necessary to provide a firm conclusion for the relationship between citizens and fiscal retrenchment implementation applicable to both sides of revenue-raising and expenditure cuts. Second, little research has been devoted to this relationship with fiscal health at the nation-wide local level.

2.3 Citizen participation

Early citizen participation was intended to express public pressures without information about details of public priorities for government decision-making (Carrell, 1969). However, the emergence of democratic governance changed the role of citizen participation in a sense that citizens can suggest public policies connected with their preferences through citizen participation that actualizes democratic governance by merging citizen input into government decision-making (Box, 1999). Currently, the purposes of citizen participation in the budgeting process are to understand public needs for the high quality of public service delivery, to establish a government-citizen partnership system in delivering public services, and to provide legitimacy to government decisions (Thomas, 2012).

Arnstein's ladder of citizen participation (1967) provides an answer to the question: 'What are the purposes of citizen participation?' Arnstein (1967) suggested eight citizen

participation levels depending on the degree to which citizens fully control government decision-making. The ladder of citizen participation offers *manipulation* and *therapy* as the bottom rungs that are intended to educate citizens, thereby legitimating government decisions. However, the bottom rungs of the ladder are considered as nonparticipation because government decisions at this level cannot be revised by citizen input (Arnstein, 1967). The middle rungs of the ladder of citizen participation are *informing*, *consultation*, and *placation* as *tokenism*, where governments try to share information about a public decision making process, but do not merge citizen input into their decisions (Arnstein, 1967). Arnstein (1967) argues that *partnership*, *delegated power*, and *citizen control* as the rungs of the ladder are effective citizen participation where citizens have negotiation power as well as "the majority of decision-making seats" and "full managerial power" for government decisions (p. 217).

Although there is no universal definition of citizen participation, most studies emphasize the current purposes of the ladder of citizen participation established by Arnstein (1967). Table 2.3.1 shows the definitions of citizen participation with three dimensions of the current purposes: (1) information-sharing, (2) collaborative policy-making, and (3) collaborative decision-making. As the first dimension, the purpose of citizen participation is to provide open-spaces to share public demands and a government decision process (Yang & Callahan, 2007; Kweit & Kweit, 1981). These open-spaces allow citizens to monitor the mechanisms of public decisions as well as governments to acquire information about public demands in implementing public policies (Yang & Callahan, 2007).

Table 2.3.1 The definitions of citizen participation

Dimension	Definition	Sources
Information-sharing	Citizen participation refers to open spaces to share public demands and a government decision process.	Kweit and Kweit (1981) and, Yang and Callahan (2007)
Collaborative policy-making	Citizen participation is a citizen-government partnership process to set up a collaborative policy making system.	Moynihan (2003), Roberts (2004) and, Wang and Wan Wart (2007)
Collaborative decision-making	Citizen participation is a particular mechanism to legitimate government decisions.	Handley and Howell-Moroney (2010)

As the second dimension, citizen participation is a citizen-government partnership process to set up a collaborative policy making system. For effective citizen participation, governments should consider citizen input in formulating and articulating public programs. Moynihan (2003) defined citizen participation as a venue to share citizen input for government policy making. Roberts (2004) focused on a shared power to define citizen participation, which is a democratic process to combine citizen input with government decisions. Arguing that citizen participation is separated from political participation such as campaigning and voting, it denotes administrative participation that citizens are involved in program implementation including goals, service quality, and program outputs and outcomes (Wang & Wan Wart, 2007).

As the third dimension, citizen participation is a particular mechanism to legitimate public decisions. Citizen participation denotes public hearings and meetings where citizens express their opinions about policy and budget proposals (Handley & Howell-Moroney, 2010). Citizens' favorable attitudes to public decisions allow governments to prevent failures of public policies; thus, citizen participation is considered a venue to receive public support

for legitimate public policies (Dalehite, 2008).

Based on these definitions, citizen participation has occurred in various fields of public administration. Ethridge (1980) argues that participatory rule making helps to reach consensus of rules in communities, thereby promoting rule compliance with adopted regulations. This argument is supported by a later study that concludes that participatory rule making improves community members' rule compliance with environmental regulation (O'Rourke & Macey, 2003). Suggesting information about public demands, citizen participation plays a crucial role in helping government to develop effective performance measures aligned with public goals; these performance measures improve government performance (Dalehite, 2008; Vigoda, 2002; Wichowsky & Moynihan, 2008; Woolum, 2011). Interactions between citizens and government in public meetings and hearings enable governments to promote collaborative management such as public-private partnerships in implementing public programs (Rosenbloom, 2013). Ebdon and Franklin (2006) argue that governments can mitigate painful fiscal decisions on revenue-raising and public service cuts by merging citizen input into budget allocations and funding strategies.

2.3.1 Issues of citizen participation

Literature on participatory budgeting brings up three issues: (1) 'Who participates in the budget process?' (2) 'What citizen participation mechanisms are effective in the budget process?' and (3) 'When should citizens participate in the budget process?' Ebdon and Franklin (2006) suggested the framework of participatory budgeting to identify supportive citizen participation regarding participants, mechanisms, and process and timing. Ebdon and

Franklin (2006) argue that representativeness of citizens, multiple uses of citizen participation mechanisms, and citizen participation adoption applied early in the budget process produce better outputs and outcomes.

With respect to participants, in democratic governance, citizen participation is good for accountability to make a sustainable government, and is an important institution to ensure successful democratic governance (Box, 1999; Box, Marshall, Reed, & Reed, 2001; Dahl, 1991). These scholars pointed out that governments managed by a small elite group would be unsustainable due to a lack of accountability that results in failures of policy decisions. Thus, citizen participation should be designed to involve general citizens but not small interest groups and stakeholders, thereby preventing biased citizen input in budgetary decision making (Kathlene & Martin, 1991). However, some scholars consider the main members of citizen participation as stakeholders who try to merge their interests into public programs such as public safety, transportation, zoning and planning, and budgeting (Handley & Howell-Moroney, 2010; Marlowe & Portillo, 2006; Wang & Wan Wart, 2007).

The existing studies have mixed views on citizen participation for either general citizens or stakeholders in their empirical findings. Municipal managers generally perceive that the more population the cities have, the more their citizen participation is oriented to interest groups but not general citizens because of the difficulty to satisfy community diversity of large municipalities (Marlowe & Portillo, 2006). Handley and Howell-Moroney (2010) considered citizen participation as the involement of stakeholders in examining the effect of citizen participation on the budget allocation of Community Development Block Grants (CDBG). Wang and Wan Wart (2007) followed this view on citizen participation as stakeholders in an examination of the relationship between public participation and trust in

government. However, most studies have another view on citizen participation as the involvement of general citizens in examining both the determinants of citizen participation and citizen participation effects (Dougherty & Easton, 2011; Guo & Neshkova, 2013; Ho & Coates, 2002; Jimenez, 2014; Kim & Schachter, 2013; Moynihan, 2003; Neshkova & Guo, 2012; Zhang & Liao, 2011).

With respect to citizen participation mechanisms, Franklin, Ho, and Ebdon (2009) emphasized community-wide issue-oriented mechanisms as representing focus groups, simulations, advisory boards and committees, public hearings and meetings, and surveys at the macro level. These citizen participation mechanisms are classified as representative and informative (Robbins et al., 2008). Robbins et al., (2008) argued that the survey is a more representative and informative; focus groups, simulations, and advisory boards and committees are less representative but more informative; public hearings and meetings are less representative and informative. Thus, to improve strengths and weaknesses of citizen participation, Ebdon and Franklin (2006) suggest use of multiple citizen participation.

Empirical findings provide evidence of a difference between representative and informative citizen participation mechanism as well as the effectiveness of multiple uses of citizen participation. Some local governments emphasize representative and informative citizen participation by employing citizen surveys to guide budget deliberations in allocating financial resources. For example, Fort Collins, Colorado surveys public service preferences of citizens for budget allocations in order to achieve fiscal accountability; Sparks, Nevada, surveys tax payers' preferences for funding strategies, thereby adopting tax policies aligned with public demands (Simonsen & Robbins, 2000). Kathlene and Martin (1991) concluded that, in the case of the City of Boulder, Colorado, citizen survey panels based on

demographic information helped to organize participant groups as representing general citizens, thereby satisfying both representativeness and informativeness of citizen participation.

However, some scholars emphasize informative citizen participation mechanisms. Berman (1997) concluded that the use of citizen panels is negatively associated with government cynicism, but this is not the case for public hearings and meetings. As a committee, Citizen-Initiated Performance Assessment (CIPA) contributes to developing performance indicators for performance-based budgeting (Ho & Coates, 2002). Moynihan (2003) emphasized citizen panels as informative mechanisms, criticizing that general citizen-focused participation such as public hearings is not a high-quality participation system to provide valuable citizen input for fiscal decisions. Dougherty and Easton (2011) conclude that, with a focus on informative citizen participation mechanisms, council-manager governments tend to adopt commissions and boards to merge citizen input into budgetary decision making. However, some studies consider public hearings and meetings as the main public participation efforts of governments. Koontz (1999) argued that in the process of community tax policies, generally, governments rely on public hearings and meetings as a means to communicate proposed tax policies with citizens. Piotrowski and Van Ryzin (2007) found that public hearings as citizen participation improve government transparency by offering citizens opportunities to access budget information.

Franklin et al., (2009) concluded that macro level citizen participation mechanisms, such as surveys and budget simulations, and multiple uses of macro citizen participation, are positively associated with enhancing public trust. Supporting this argument, later studies have focused on multiple uses of citizen participation in examining the effect of citizen

participation. Assuming that municipalities generally provide multiple citizen participation mechanisms, Wang and Wan Wart (2007) used a citizen participation index, composed of public hearings, citizen advisory boards, citizen focus groups, business community meetings, and chamber of commerce meetings, to examine the effect of citizen participation on trust in government. The findings provide evidence that multiple citizen participation mechanisms are positively associated with enhancing trust in government. Zhang and Liao (2011) found that the council-manager form and municipalities with more racial diversity of council members tend to adopt multiple citizen participation mechanisms in the budget process. However, the 2009 ICMA survey shows that most municipalities offer only one mechanism for the adoption of citizen participation (Jimenez, 2014).

Meanwhile, a new citizen participation mechanism has been suggested to assure representativeness and informativeness of citizen participation. Robbins et al. (2008) conclude that web-based citizen surveys enhance representativeness and informativeness by providing participation opportunities to citizens who live in a distant area. Supporting this argument, Evans and Campos (2013) found that web-based citizen participation mechanisms help to communicate with general citizens as representing community diversity, thereby contributing to government transparency.

The budget process is generally composed of the preparation stage for budget development and planning, and adoption stage for budget deliberations and allocations. To establish effective citizen participation, government should adopt citizen participation to discuss public issues where the preparation stage sets up budgetary goals aligned with public demands (Ebdon & Franklin, 2004; Ebdon & Franklin, 2006; Kathlene & Martin, 1991). Although some studies have focused on the association between citizen participation and the

adoption stage (Jimenez, 2014; Robbins et al., 2008), most have found that citizen participation is effective in the budget preparation stage (Ebdon & Franklin, 2004; Ebdon & Franklin, 2006; Guo & Neshkova, 2013; Moynihan, 2003). Using the case of Washington D.C., Moynihan (2003) argued that citizen participation should be used not to approve a final decision but to provide public information in the early budget process such as planning and goal setting stages. Ebdon and Franklin (2004) emphasized budget proposal and planning stages, arguing that citizen input does not influence major changes in fiscal decisions in the budget adoption stage. Guo and Neshkova (2013) found that citizen participation applied to the early budget process, such as budget development and planning stages, improves organizational efficiency of state transportation departments. However, citizen participation can also be effective in the budget adoption stage. The town of West Hartford, Connecticut tends to allocate financial resources with public priorities from citizen participation (Robbins et al., 2008).

2.3.2. The adoption of citizen participation

Form of government, political culture, democratic institutions, and population and diversity have been suggested to promote citizen participation. Form of government is one of the important political institutions for local government management because of the argument that behaviors of local governments differ depending on the types of political structure that broadly embrace the mayor-council and council-manager form (Frederickson, Johnson, & Wood, 2004).[1] This institutional variation in the political structures allows

[1] Frederickson, Johnson, and Wood (2004) also introduce the adopted form with CAO. However, this

scholars to examine the association between form of government and the adoption of citizen participation. There are mixed findings that a variation in the forms of government is associated with the adoption of citizen participation in the budget process. On one hand, city managers' professional knowledge incorporates the understanding of public demands, thereby setting up government goals aligned with citizens' public service priorities (Koontz, 1999). The council-manager form is more likely to adopt citizen participation than the mayor-council form (Franklin & Ebdon, 2005; Zhang & Liao, 2011). On the other hand, the legitimacy of the mayor-council form derived from citizens makes it difficult for elected officials to ignore citizen input (Morgan et al., 2007). Mayor-council governments are more likely to use citizen participation mechanisms for government decisions regarding budgeting and performance measurement than council-manager governments (Yang & Callahan, 2007).

Political culture is considered a determinant of citizen participation adoption in the budget process. It is argued that different political structure produces a variation in the use of participatory budgeting (Ebdon, 2000). There is an empirical finding on the association between political culture and citizen participation adoption in the budget process at the local level. Ebdon (2000) found that cities with moralistic political culture use more methods of participatory budgeting than other cities with individualistic and traditional political cultures.

Institutions have formal and informal rules to shape organizational and individual behaviors (Peters, 2005). Governments with standards of democratic governance may promote the adoption of citizen participation (Lawton & Macaulay, 2014). The standards are composed of three dimensions as citizen participation facilitators: (1) *external engagement*, (2) *internal governance*, and (3) *organizational learning*. First, governments should have

---

study focuses on the two forms due the data availability.

external professionals such as consultants who facilitate citizen participation by complementing citizens' amateur knowledge. Second, democratic governance should be included in employee-training programs for new organizational members. Lastly, governments should have a systematic decision making process to merge citizen input into government decisions. Lawton and Macaulay (2014) found that these three dimensions are driving forces behind the adoption of citizen participation in six U.K. local authorities, but this case study does not focus on citizen participation in the budget process.

Governments with greater population and community diversity tend to adopt citizen participation in order to resolve conflicts from diversified community members (Marlowe & Portillo, 2006). Yang and Callahan (2007) provide empirical findings that larger cities are more likely to adopt citizen involvement regarding budgeting and performance measurement; furthermore, racial heterogeneity has a positive influence on citizen involvement, but the racial finding is not statistically significant.

Several studies have suggested that fiscal stress during the Great Recession may facilitate citizen participation adoption to help governments to make painful fiscal decisions on revenue-raising and public service cuts (Franklin et al., 2009; Godwin, 2014; Martin et al., 2012; Zhang & Liao, 2011). Godwin (2014) concludes that cities with higher fiscal stress during the Great Recession are more likely to support civic engagement activities. However, this conclusion relies on perceived fiscal stress, but did not use objective financial indicators to capture fiscal stress during the Great Recession. Furthermore, Godwin (2014) focuses on general participation activities, but not on participatory budgeting.

2.3.3. The role of citizen participation in the budget process

Literature on citizen participation does not provide a firm conclusion on the following questions: 'Does citizen participation influence budget decisions?' and 'If so, does citizen input represent either fair taxpayers or free-riders?' With respect to the association between citizen participation and budget decisions, on one hand, policy making processes regarding rules and financial management have been considered a territory only for professional officers. This policy dominance has led to an efficiency-focused management behavior that public officials do not reflect citizen input in government decision-making but only consider cost efficiency for government decisions (Bevir, 2010). It is argued that governments tend to ignore citizen input in budgetary decision making because, under the condition of limited financial resources, different public service priorities of citizens can lead to political conflicts (Riedel, 1972). Further, biased citizen input from small interest groups and stakeholders can interrupt governments' focus on efficiency and effectiveness in budget deliberations because "groups with money are advantaged over other groups who lack the knowledge, skills, and resources to be heard in the political process" (Roberts, 2004, p. 322). Public officials generally perceive that citizen participation is a time-consuming process that makes it difficult for governments to manage all public demands and causes a side-effect that citizens' access to decision making can create distrust in government (Irvin & Stansbury, 2004). On the other hand, some governments merge citizen input into the budget process. Budgetary goals linked with citizen input may improve fiscal accountability for public policies and programs (Cole, 1974). Governments may reduce unnecessary costs and spillovers, and further maximize budget performance by connecting citizen input with budgetary goals (Simonsen & Robbins, 2000).

Empirical studies have not reached a firm conclusion on the association between citizen participation and budgetary decision making. U.S. cities that receive Community Development Block Grants from the federal government perceive that citizen input is associated with CDBG allocations (Handley & Howell-Moroney, 2010). Citizen participation matters to performance-based budgeting by legitimating performance indicators. Ho & Coates (2002) argued that governments can adopt effective performance measures connected with public demands through Citizen-Initiated Performance Assessment (CIPA), thereby developing legitimate performance measures. Woolum (2011) supported this argument in a sense that citizen participation leads governments to develop efficiency-based performance measures as well as effectiveness-based performance measures aligned with public demands in the budget process. Recent studies have tried to examine the effects of citizen participation on government performance, arguing that agencies improve organizational performance by embracing citizen input in the budget process (Guo & Neshkova, 2013; Neshkova & Guo, 2012). Neshkova and Guo (2012) articulated practical outcomes of citizen participation: (1) citizen participation minimizes spillovers and unexpected financial costs with public demands-based resource allocation, (2) provides public support for innovative ways to develop and implement public programs, and (3) helps government to target public programs that citizen preferred. They found that state transportation agencies with more commitment to citizen participation tend to have a higher level of administrative performance on road management efficiency and effectiveness than other state transportation agencies. In a later study, Guo and Neshkova (2013) also found that state transportation agencies with more commitment to citizen participation in the early budget process such as planning and development have higher road management effectiveness than other state transportation

agencies.

However, some studies have found that there is no relationship between citizen input and budget decisions. Kathlene and Martin (1991) concluded that citizen participation is not useful for budgetary decisions due to citizens' amateur knowledge. Ebdon and Franlkin (2004) found that elected public officials in Wichita, Kansas perceived little effect of District Advisory Boards (DABs) in the budget process, and, in Topeka, Kansas citizen surveys and focus groups did not influence budgetary decision making (Ebdon & Franklin, 2004). Supporting this argument, municipalities with higher community diversity perceive citizen participation as more useful to budget decision than other municipalities in Michigan and Minnesota (Marlowe & Portillo, 2006).

What is the role of citizens in participatory budgeting? Literature on citizen participation provides answers to this question, arguing that citizens play a role either as 'fair taxpayers' or 'free-riders' in the budget process. On one hand, citizens are rational persons who are willing to pay additional taxes for fair public services and to accept public service cuts to deal with fiscal stress. Citizen participation has been used not only to request public demands but also to legitimate fiscal decisions on new tax policies (Berman, 1997). Citizens may express their willingness to pay additional taxes by understanding the fiscal stress of governments through public hearings and meetings (Ahlbrandt & Sumka, 1983). For example, citizen participation in the City of Lincoln, Nebraska allowed government to raise tax rates by minimizing tax revolts and legitimating public decisions (Hoppe, 2014).

On the other hand, Franklin et al. (2009) pointed out that "local officials who are more likely to face their citizens more directly and personally will have to deal with greater

public pressure in making difficult decisions while balancing revenue generation and program provision" (p. 53). Furthermore, another study found municipal managers and mayors in New Jersey perceived that citizens generally disagreed with an increase in taxes, and charges and fees as well as a reduction in public services to overcome fiscal stress during the Great Recession (Zhang & Liao, 2011). Thus, citizens may be self-interested persons who want to enjoy a high quality of public services without an increase in tax rates. This attitude is derived from the misunderstanding of citizens who perceive that governments try to maximize a budget by concealing actual public service costs, and hence deliver public services with excessive costs (Citrin, 1979; Courant, Gramlich, & Rubinfeld, 1980). The quality of public services should be improved or delivered at the level of minimum costs without raising taxes, and charges and fees (Ladd & Yinger, 1989). Ebdon and Franlkin (2004) found that in the case of the City of Wichita, Kansas, the elected officials perceived that all citizens did not want to pay more property taxes in the budget simulation, but citizens who participated ended up supporting tax increases. One study found that survey respondents in the town of West Hartford, Connecticut were reluctant to raise tax rates to improve service quality, but were willing to cut services for a balanced budget (Robbins et al., 2008). Supporting this argument, during the Great Recession, Jimenez (2014) concluded that municipalities with a commitment to citizen participation tended to prefer increased sales taxes and increased new user fees perceived as being low conflict-based retrenchment strategies on the revenue-raising side, whereas the municipalities tend to adopt eliminated public services, layoffs, revised union contracts, targeted cuts, and reduced services and salaries perceived as being high conflict-based retrenchment strategies on the expenditure-reduction side.

2.3.4 Summary and research gaps of citizen participation

This section reviewed the issues of citizen participation regarding participants, mechanisms, and process and timing, investigated the antecedents of citizen participation, and identified the role of citizen participation in the budget process. With respect to the issues of citizen participation, there are opposing views on participants who are general citizens, and stakeholders and interest groups. While some studies found that participants of civic engagement are generally stakeholders and interest groups who try to reflect their interests to public programs, most provide evidence that citizen participation represent general citizens. Regarding citizen participation mechanisms, some studies have focused on representative citizen participation mechanisms that match demography and interests of entire community, whereas some emphasize informative citizen participation mechanisms that acquire in-depth information about community demands and problems from neighborhood leaders. However, recent studies argue that multiple uses of citizen participation mechanisms make more effective citizen participation. Furthermore, it has shown that web-based citizen participation mechanisms may improve both representativeness and informativeness of citizen participation. The effectiveness of citizen participation varies depending on the availability of citizen participation in different budget stages. Empirical findings show that budget planning and development stages have citizen participation as more effective than citizen participation in other budget stages.

In citizen participation in budgeting theory, form of government, political culture, legal requirements, and population size and diversity are suggested to support citizen participation adoption (Ebdon & Franklin, 2006). Regarding form of government, the literature provides mixed findings as to whether mayor-council or council-manager

governments are more likely to adopt citizen participation. There is an empirical finding that cities with moralistic political culture are more likely to adopt citizen participation than cities with individualistic and traditional political culture. Lastly, some studies found that democratic institutions have a positive relation to citizen participation.

Some literature on citizen participation has found that citizen input helps government to make fiscal decisions, whereas others conclude that there is no relationship between them. If governments consider citizen input in the budget process, two roles of citizens have been suggested in the literature: 'fair taxpayers' or 'free-riders.' While some studies conclude that citizens are willing to pay taxes for fair public services, some have a negative view on the role of citizens perceived as being free-riders who want to enjoy the high quality of public service without an increase in tax rates.

Research gaps appear in the literature on citizen participation. The existing studies have not offered firm conclusions on the association between fiscal stress during the Great Recession and citizen participation adoption in the budget process, on whether citizens are 'fair taxpayers' or 'free-riders,' and on the effect of the role of citizens on fiscal recovery, taking into consideration budgetary choices of fiscal retrenchment strategies.

2.4 The Great Recession

2.4.1 Fiscal health

The cause of the Great Recession is different from previous recessions that resulted from the sudden collapses of the stock market. There is general consensus on the collapse of

the U.S. housing bubble as the primary cause of the Great Recession. The collapse of the U.S. housing bubble led to sharp decreases in home valuation, the mortgage market, the construction industry, and real estate. During the Great Recession, the U.S foreclosure start rate more than quadrupled (MBA, 2010). This sharp increase in the U.S. foreclosure start rate led to the collapse of the subprime mortgage industry; more than 25 subprime lenders declared bankruptcy (Der Hovanesian & Goldstein, 2007). The U.S. job market declined due to this collapse of the subprime mortgage industry; that is, the U.S. lost over 7.5 million jobs during the Great Recession (Grusky, Western, & Wimer, 2011). Consequently, all U.S. governments were faced with financial difficulty due to shrinking income, sales, and property tax bases from increases in the unemployment rate and foreclosure rates as well as a decrease in spending power.

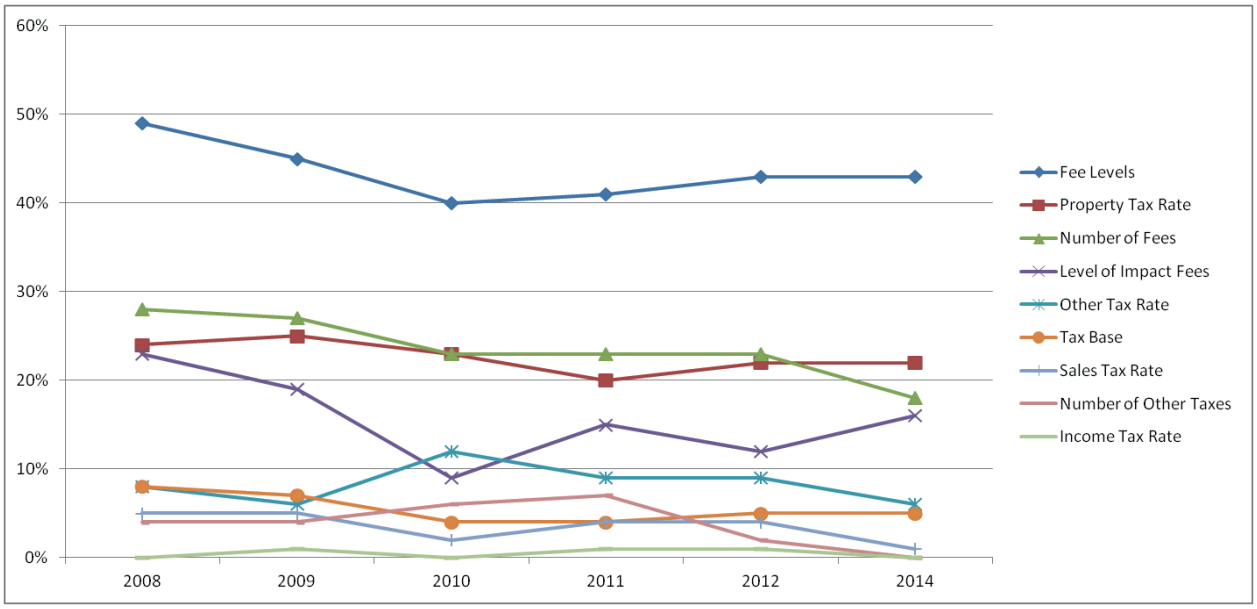
The Great Recession brought up several factors that caused financial difficulty at the local level. First, the fiscal health of local governments might vary depending on their degree of housing bubble. Severe local financial difficulty appeared in California, Nevada, and Florida, which experienced high inflated housing prices and high foreclosure rates (Lynch, 2008). Second, local fiscal health might vary depending on the extent to which local governments were fiscally dependent on the federal and state governments. For example, eliminating all aid to local governments weakened local fiscal capacity to adopt a balanced budget in maintaining the current level of public service quality and quantity in Nebraska (Martin et. al., 2012). Third, the expansion of employee benefits and the failure of governments to make necessary contributions to pension funds might produce a variation in local fiscal health. For example, unfunded pension liabilities were one of the primary fiscal threats that led to the fiscal inability to maintain a balanced budget in Central Falls, Rhode

Island and Detroit, Michigan (Fudge, 2014). Fourth, some local governments did not collect sufficient financial resources to afford incremental budget growth during the Great Recession due to the anti-tax mood. For example, California Proposition 13 limited an increase in property taxes for local goverments to overcome fiscal stress (Grusky, Western, & Wimer, 2011; Scorsone, Levine, & Justice, 2012). Thus, these variations allowed local governments to implement different fiscal retrenchment strategies in maintaining fiscal health during the Great Recession. However, we know little about what fiscal retrenchment strategies improved fiscal health.

2.4.2 Fiscal retrenchment strategies

Various frameworks have been suggested to examine how governments implemented fiscal retrenchment strategies in response to fiscal stress. First, there is no systematic decision making process for the implementation of fiscal retrenchment strategies (Bartle, 1996; Pammer, 1990). Second, in the systematic decision making process, the implementation of fiscal retrenchment strategies varies depending on budget decision makers' concerns about decrementalism (Schick, 1983), the level of resource scarcity (Levine et al., 1981), and conflicts (Wolman & Davis, 1980). Among these frameworks, during the Great Recession, local governments relatively focused on the level of resource scarcity and conflicts in implementing fiscal retrenchment strategies.

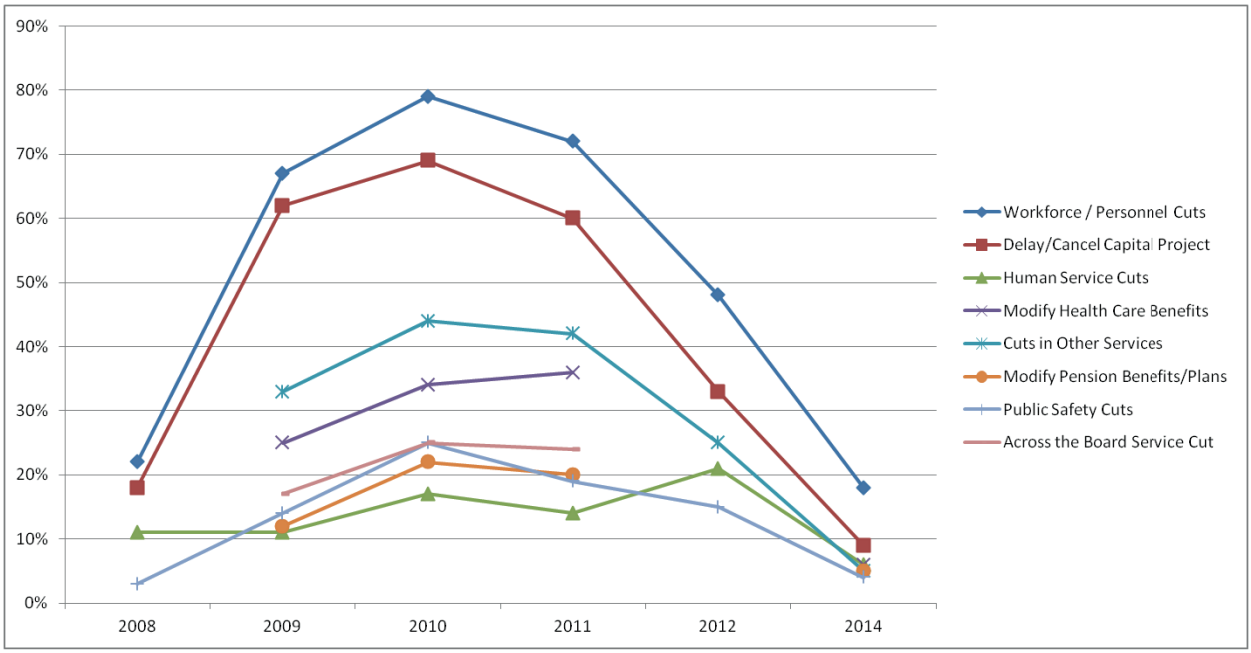
Figure 2.4.1 The trend of city revenue actions from 2008 to 2014 (except for 2013)



Sources: City Fiscal Conditions reports from 2008 to 2014. National League of Cities (NLC)

Generally, during the Great Recession, most city governments preferred to implement low conflict-oriented fiscal strategies, but this preference varies depending on the level of resource scarcity. The annual NLC surveys provide the trend of the implementation of fiscal retrenchment strategies at the city level. Figure 2.4.1 shows that the majority of city governments implemented an increase in fees and charges during the Great Recession on the revenue side. This trend is not changed in the period of fiscal recovery from 2011 to 2014. In Figure 2.4.2., workforce and personnel cuts were the major fiscal retrenchment strategy during the Great Recession on the expenditure cut side. Specifically, Figure 2.4.3 shows that, among the strategies of workforce and personnel cuts, hiring and salary freezes were general fiscal retrenchment tactics on the expenditure cut side. Also, this trend continues in the period of the post-Great Recession.

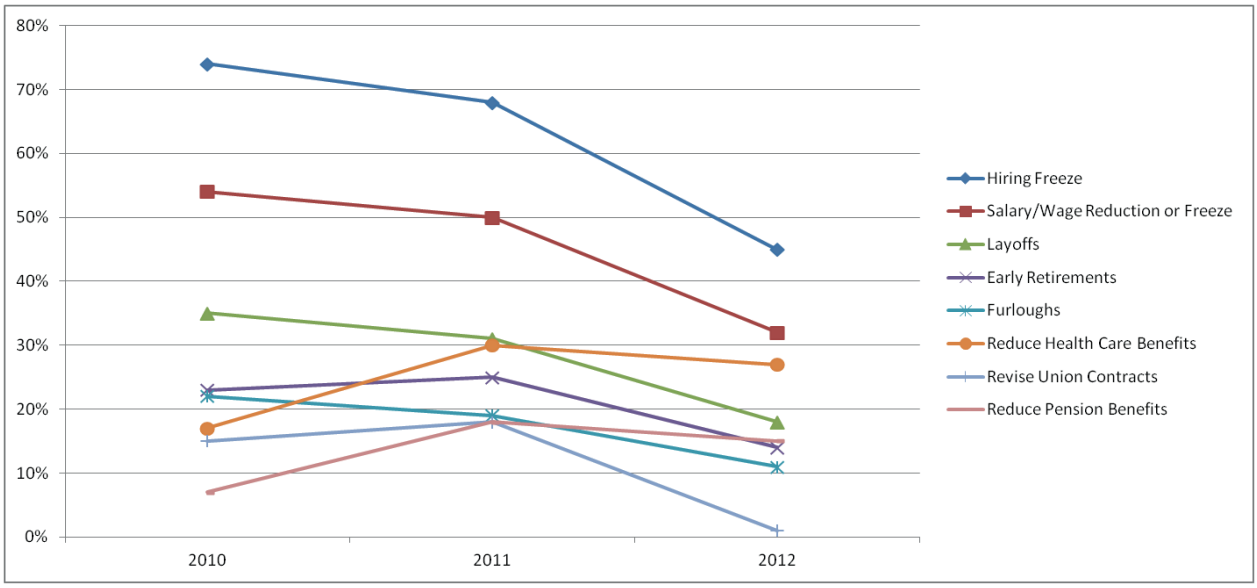
Figure 2.4.2 The trend of city spending cuts from 2008 to 2014



Sources: City Fiscal Conditions reports from 2008 to 2014. National League of Cities
Note: the NLC does not provide information about the implementation of fiscal retrenchment in 2013.

However, city governments also implemented high conflict-oriented fiscal retrenchment strategies under the condition of severe fiscal stress during the Great Recession. Figure 2.4.1 shows that city governments implemented an increase in property taxes and the number of fees and charges as the second strategy of fiscal retrenchment. In particular, the trend of the implementation of property taxes slightly increased from 2008 to 2009 perceived as being the period of severe fiscal stress during the Great Recession. On the expenditure cut side, most fiscal retrenchment strategies sharply increased from 2008 to 2010. Specifically, Figure 2.4.3 shows that one of the major expenditure cut strategies is layoffs followed by reduced benefits, and early retirements, and reduced benefits in 2010 perceived as being the year of severe fiscal stress during the Great Recession.

Figure 2.4.3 The trend of city personnel-related cuts from 2010 to 2012



Sources: City Fiscal Conditions reports from 2010 to 2012. National League of Cities
Note: the NLC does not provide survey results about city personnel-related cuts from 2007 to 2008.

Another study's findings are similar to these trends on the side of expenditure cuts. As fiscal retrenchment strategies, 83% of the 199 largest U.S. cities with a population of 25,000 or more used the cost cutting model during the Great Recession (Lewis & Mello, 2009). These findings show that the most preferred fiscal retrenchment strategies were a hiring freeze (68%) followed by targeted cuts (60%), freezing or reducing budgeted raises (55%), across-the board cuts (45%) and layoffs (42%).

As reviewed above, although city governments preferred to implement low conflict-oriented fiscal retrenchments strategies on both revenues and expenditures, the period of severe fiscal stress encouraged city governments to implement high conflict-oriented fiscal retrenchment tragedies. However, we know little about how local governments implemented conflict-oriented fiscal retrenchment strategies on the revenue as well as expenditure side,

and how these implemented fiscal retrenchment strategies contributed to fiscal health.

2.4.3. Citizen participation

Citizen participation may not be related to government decision making in the existing systems frameworks; however, if governments merge citizen input into their decisions, citizens may play a role as either fair taxpayers or free-riders in the budget process. Since the Great Recession, several cases show that citizen participation had a relation to budgetary decision making; furthermore, citizens were fair taxpayers to pay additional taxes for local fiscal stress. It has been argued that some local governments have successfully achieved fiscal recovery by adopting high conflict-oriented fiscal retrenchment strategies including raising revenues and public service cuts through citizen participation (Hoppe, 2014; Reed, 2014; Saintamour & Huggler, 2010).

Warren and Ferndale, Michigan, Las Vegas, Nevada, and Lakeland, Florida adopted a customer satisfaction index through government information sharing, surveys, focus groups, and public meetings (Saintamour & Huggler, 2010). The information of citizens' public service priorities provided by the customer satisfaction index enabled the cities to employ optimal sets of fiscal retrenchment strategies for successful fiscal recovery during the Great Recession. Despite extreme public service cuts, Lincoln, Nebraska increased property tax rates by 1.47 % in order to cope with fiscal storms from the Great Recession in 2011 (Hicks, 2011). Lincoln public participation programs allowed fiscal decision makers to increase property tax rates (Hoppe, 2014). Through the city's participatory decision making based on online surveys and community meetings, finance officers convinced citizens of fiscal stress,

thereby promoting multiple fiscal retrenchment strategies simultaneously to fulfill public service cuts and raise revenues. San Jose, California implemented a revised public pension system without strong opposition from unions (Reed, 2014). Although the city has laid-off many police officers and firefighters, service-delivery insolvency still remained in 2011. To implement the revised pension system for this fiscal difficulty, the city publicly posted "*the employee collective-bargaining process"* on the website prior to a final approval. This open government policy allowed citizens to understand the necessity of the revised pension system for fiscal recovery. Moreover, through public hearings and meetings, the city tried to receive the decision legitimacy of the implemented revised pension system. Consequently, the revised pension system contributed to overcoming the fiscal stress of the city. However, these cases are anecdotal, but not general evidence on participatory budgeting during the Great Recession.

2.4.4. Summary and research gaps of the Great Recession

This section reviewed the cause of the Great Recession and its effects on fiscal health, fiscal retrenchment strategies, and citizen participation. The literature shows that local fiscal health may vary depending on the degree of the housing bubble, the dependence of intergovernmental revenues, tax revolts, and the expansion of employee benefits and the failure of governments to make necessary contributions to pension funds. Thus, these variations allowed local governments to implement different fiscal retrenchment strategies in maintaining fiscal health during the Great Recession. However, we know little about what fiscal retrenchment strategies led to fiscal recovery more quickly than others at the local level.

Since the Great Recession, fiscal retrenchment strategies of local governments have focused on conflicts and the level of resource scarcity. In other words, local governments try to implement low conflict-oriented fiscal retrenchment strategies on the revenue as well as expenditure side; however, the higher level of resource scarcity encourages them to implement high conflict-oriented fiscal retrenchment strategies. However, we know little about how local governments implemented conflict-oriented fiscal retrenchment strategies on both revenues and expenditures, and how these implemented fiscal retrenchment strategies contributed to fiscal health.

Meanwhile, literature on citizen participation provides several cases in which some local governments have successfully achieved fiscal recovery by adopting high conflict-oriented fiscal retrenchment strategies including raising revenues and public service cuts through citizen participation. However, these cases are anecdotal, but not general evidence on participatory budgeting during the Great Recession.

2.5 Summary

This chapter is organized in the following three sections: (1) fiscal health, (2) fiscal retrenchment, (3) citizen participation, and (4) the Great Recession. The first section reviewed fiscal health measurement and the determinants of fiscal health. Two research gaps are shown in the literature on fiscal health: (1) little research has offered an empirical finding for the relationship between citizens and fiscal health; and (2) little research has examined a theoretical linkage between citizen participation, fiscal retrenchment, and fiscal health. Regarding fiscal health, many scholars have not used multi-dimensions of fiscal health

measurement to examine the determinants of fiscal recovery because of the difficulty of data collection at the local level.

The second section reviewed the models of fiscal retrenchment strategies that have been used in governments, and decision actors of fiscal retrenchment. The availability of the models depends on conflicts of stakeholders. The literature shows that the composition of fiscal retrenchment strategies tend to embrace fiscal retrenchment models that lead to conflicts of stake holders such as taxpayers and public officials. However, little research has examined how local governments implemented this fiscal composition during the Great Recession, and how this composition contributed to fiscal recovery in the post-Great recession.

The third section reviewed the issues of citizen participation regarding participants, mechanisms, and process and timing, investigated the antecedents of citizen participation, and identified the role of citizen participation in the budget process. Research gaps show that the existing studies have not offered firm conclusions on the association between fiscal stress during the Great Recession and citizen participation adoption in the budget process, on whether citizens are 'fair taxpayers' or 'free-riders', and on the effect of the role of citizens on fiscal health, taking into consideration choices of fiscal retrenchment strategies.

The fourth section reviewed the cause of the Great Recession and its effects on fiscal health, fiscal retrenchment strategies, and citizen participation. Although the Great Recession influenced local financial management regarding fiscal health, fiscal retrenchment, and citizen participation, there are some research gaps in the literature. We know little about what fiscal retrenchment strategies led to fiscal recovery more quickly than others at the local level;

how local governments implemented conflict-oriented fiscal retrenchment strategies on both the revenue and expenditure sides; and how these implemented fiscal retrenchment strategies contributed to fiscal recovery. Some cases explain these financial management behaviors at the local level, but these cases are anecdotal, rather than general evidence on participatory budgeting during the Great Recession.

The following chapter will introduce a democratic financial management framework composed of fiscal stress during the Great Recession, citizen participation, fiscal retrenchment, and fiscal recovery and will propose hypotheses regarding this theoretical linkage.

Chapter 3: Framework

The previous chapter found research gaps between fiscal stress and citizen participation during the Great Recession, and citizen participation, fiscal retrenchment, and fiscal health. Using systems theory, this chapter develops hypotheses for the research questions. First, this chapter introduces a classic systems framework by Easton (1957), applied systems frameworks by Morgan, England, and Pelissero (2007) and Levine, Rubin, and Wolohojian (1981), and a democratic systems framework by Schmidt (2013). Drawing on these systems frameworks, this study suggests a democratic financial management system and proposes hypotheses for the research questions.

3.1 Systems theory

Systems theory delineates a policy process from environments to outputs, taking into consideration a political decision system based on public demands and support (Easton, 1957). Easton's framework (1957) suggests that environments broadly embrace cultural, social, economic, and demographic factors that lead to political influences on policy decisions. If community members perceive that the extant policies are inappropriate for coping with new environments, they tend to foster a change in the policies (Easton, 1957). These political influences are termed as an input process in systems theory. For example, unsatisfactory tax policies during the Great Recession may encourage taxpayers to request alternative funding strategies for governments. The input process encompasses public demands and support for governments to implement policies in the political decision system. In the output process, the implemented policies are institutionalized as alternatives to

overcome a current environmental crisis as well as to minimize the weakness of the extant policies. This policy making is a recurring process in which the implemented policies could be revised and terminated by new circumstances.

There are two approaches to systems theory in public administration. In the first approach, administrative decisions are seen as consequences in response to environments. Various studies have examined the effect of environments on administrative decisions regarding policy adoption, policy action, and policy-making. For example, a perceived environmental uncertainty regarding "changing student demographics," "labor market instability," and "changing funding mechanisms" promotes diversity management programs and recruitment in public schools (Pitts, Hicklin, Hawes, & Melton, 2010, p. 872). This administrative response approach is also available for financial management. State governments tend to adopt new fiscal rules in response to a low turnout of voters and budget shortfalls (Sosin, 2012). Regarding policy actions, presidential and congressional approval (Chanley, Rudolph, & Rahn, 2000), and budget appropriations (Ripley, Franklin, Holmes, & Moreland, 1982) vary depending on changes in socioeconomic factors and public support. Lastly, governments tend to implement new public programs to cope with public demands from interest groups and stakeholders in a policy making process (Abney & Lauth, 1986; Keller, 2010). Replicating systems theory, the literature has framed the policy process by arguing that public demands and support derived from unsatisfactory socioeconomic factors stimulate administrative decisions to employ alternatives.

The second approach to systems theory focuses on the outputs that are produced from the policies by public demands and support. A decision consequence approach is intended to find policy outputs from administrative decisions regarding service costs (Kiel,

1993), citizen satisfaction (Anderson & Guillory, 1997), funding levels (Poister, Pasha, & Edwards, 2013; Ryu, Bowling, Cho, & Wright, 2008), and equity (Selden, 1997). Kiel (1993) articulated a decision making process composed of environment, administrative decisions, and outputs, arguing that administrative responses to public requests to adopt new public programs causes an increase in labor costs. Regarding institutional decisions, implemented democratic institutions enhance citizens' satisfaction (Anderson & Guillory, 1997). In addition, the level of public funds varies depending on the implementation of different fiscal institutions (Poister, Pasha, & Edwards, 2013; Ryu, Bowling, Cho, & Wright, 2008). Implemented diversity-oriented public programs benefit recipients with various racial and ethnic backgrounds (Selden, 1997).

However, the administrative response and decision consequence approaches ignore possible mechanisms to convey public demands and support. The literature has focused on the relationship between environments, implemented programs and policies, and outputs, but has not empirically tested a theoretical linkage between fiscal stress, citizen participation, fiscal retrenchment, and fiscal health. Missing in our understanding of a classic systems theory is the communication channels to deliver the public demands and supports to government decision-making.

3.1.1 Applied systems frameworks

Systems theory has been applied to sub-fields of public administration. Morgan et al. (2007) articulated a systems framework at the municipal level. The municipal approach to systems theory by Morgan et al. (2007) focuses on community members as environmental

factors to influence policy decision making. Their framework categorizes community members as interest and neighborhood groups, stakeholders, citizens, and media that shape public policy with public demands and support. Morgan et al. (2007) argue that community members' public support is a driving force behind policy implementation; hence, city council members, mayors, city managers, and local bureaucrats cannot actualize policy programs without public support. This municipal approach to systems theory emphasizes the role of citizen participation as a means to deliver public demands and support. The Morgan et al. systems framework (2007) shows public demands and support are not directly transferred to decision makers but are delivered by input mechanisms such as citizen participation. For example, many cities (Seattle, San Francisco, Indianapolis, Charlotte, Denver, Portland (Oregon), Phoenix, San Jose, Boston, and New York) employ budget simulation to merge community members' input into budget allocation and funding strategies (Morgan et al., 2007). Based on the municipal systems framework, various studies have examined the availability of citizen participation in fiscal performance and fiscal retrenchment strategies (Jimenez, 2014; Neshkova & Guo, 2012). However, they have not empirically examined how environments affect a local commitment to citizen participation, and how the local commitment to citizen participation influences decision outputs simultaneously.

The fiscal approach to systems theory by Levine and Rubin (1980) and Levine et al. (1981) specified major determinants that influence choices of fiscal strategies under the lack of financial resources. The fiscal systems framework suggests possible theoretical linkages that fiscal stress has not only a direct effect on fiscal strategy initiatives but also an indirect effect on fiscal strategy initiatives through fiscal institutions and interest groups. However, the decision actors of the fiscal systems framework are limited to interest groups but not

extended to other community members such as citizens, despite the argument that citizens, as taxpayers, have been considered one of the important groups of actors to influence fiscal strategies (Hendrick, 2011). Meanwhile, Schmidt (2013) theorized a democratic systems theory including input, communication channels, and outputs and outcomes. The following section addresses the details of Schmidt's democratic systems theory. I applied Schmidt's democratic systems theory to financial management and introduce its theoretical framework from the Great Recession to fiscal recovery.

3.1.2 The democratic systems theory

Schmidt (2013) pointed out that Easton's systems framework (1965) focuses on showing the procedure of political decision making but not on explaining how the decision making process can be legitimated by citizens. Schmidt's systems framework (2013) emphasizes that "the quality of the governance processes, and not only the effectiveness of the outcomes and the participation of the citizenry, is an important criterion for the evaluation of a polity's overall democratic legitimacy" (p. 2-3). This framework delineates that citizen participation appears in the policy decision making process including "input" and "output" in systems theory. Schmidt (2013) defined that a communication channel is an intermediation mechanism to merge citizen input into policy decision making. The intermediation mechanism improves efficacy, accountability, and transparency of governance processes in the relationship between political input and policy outputs. Schmidt (2013) argues that citizens' demands and support are actualized in the intermediation mechanism termed as "throughput." The essentials of throughput are to legitimate policy decision making and to

produce a greater level of output performance (Schmidt, 2013).

First, Schmidt's systems framework (2013) contends that joint governance processes established by throughput legitimate public decisions. In the throughput process, citizens can express their demands and support through various ways such as voting as indirect participation and commissions as direct participation in policy decision making. In particular, the direct decision making process provides citizens an opportunity to understand how their demands and support are transferred to policy outputs, and are affected by other decision actors such as interest groups and lobbyists. In the joint decision making process, fundamentally, a particular actor cannot outweigh other decision actors in implementing public decisions because of veto powers (Schmidt, 2013). She argues that joint decision making processes established by citizen participation tend to make adequate policy outputs to satisfy all decision actors. Thus, to implement legitimate public decisions, governments should adopt communication channels to encompass citizens and to merge their demands and support into decision making.

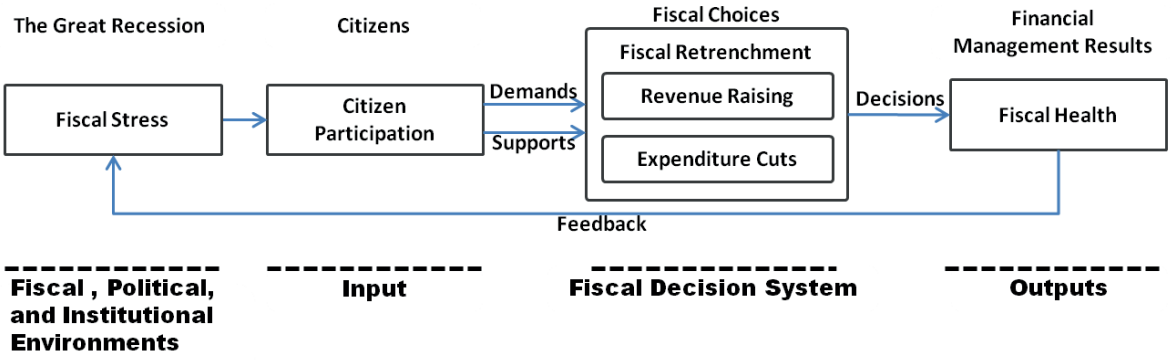
Second, Schmidt's systems framework (2013) contends that transparent decision making processes established by citizen participation improve output performance. Citizen participation can be a *cordon sanitaire* to prevent corruption, incompetence, and exclusion that cause a "house of cards" in policy decision making (Schmidt, 2013, p. 14). Citizens can monitor a government decision making process and control policy decisions through citizen participation mechanisms. Citizens' monitoring and controlling play a crucial role in helping governments to prevent corruption and incompetence and then to implement adequate policy decisions at the optimal level without unnecessary costs derived from the "house of cards" (Schmidt, 2013). Consequently, citizen participation can contribute to improving output

performance of policy decisions. I applied Schimdt's systems framework (2013) to a democratic financial management system comprising environments, communication channels, fiscal decisions, and outputs. The following section introduces a democratic financial management system and suggests hypotheses based on fiscal stress, citizen participation, fiscal retrenchment, and fiscal health.

3.2 Democratic Financial Management System

Drawing on Schmidt's systems theory (2013), this research suggest a democratic financial management system composed of the Great Recession, citizen participation, fiscal retrenchment, and fiscal health. Levine et al.'s fiscal systems framework (1981) does not focus on the role of communication channels, whereas the democratic financial management system argues that democratic mechanisms play a crucial role in helping governments to decide fiscal strategies to manage environmental threats and to achieve fiscal goals. Public demands and support affected by environments are delivered by communication channels in the democratic financial management system. Communication channels may legitimate a financial decision making process, and legitimated fiscal decisions may produce good fiscal outputs. Figure 3.2.1 shows the flow of the democratic financial management system. To test this framework, this research suggests a theoretical model and hypotheses between the Great Recession, citizen participation, fiscal strategies, and fiscal health. Among these theoretical factors for the democratic financial system, I focused on two relationships between the Great Recession and citizen participation, and citizen participation, fiscal retrenchment, and fiscal health.

Figure 3.2.1 Democratic Financial Management System



3.2.1 Fiscal stress and citizen participation during the Great Recession

In the previous chapter, I reviewed the determinants of citizen participation adoption: (1) city managers' professional knowledge in the council-manager form, (2) cities with moralistic political culture, (3) organizations with standards of democratic governance, and (4) community heterogeneity. In particular, with respect to community heterogeneity, citizen participation may be adopted to resolve conflicts from a diversified community (Marlowe & Portillo, 2006). I focused on conflicts in explaining the relationship between fiscal stress and citizen participation (see Figure 3.2.2).

Figure 3.2.2 A conceptual model for the relationship between fiscal stress and citizen participation

Maxwell and Reuveny (2000) argue that resource scarcity leads to conflicts from agents, organizations, and individuals. There is an assumption that organizational and individual behaviors inherently intend to maximize their welfare, profits, and interests in general; thus, resource scarcity causes an unsatisfactory state for maximized welfare, profits, and interests, resulting in conflicts between organizations as well as individuals (Brander & Taylor, 1998). Replicating this assumption, Maxwell and Reuveny (2000) proposed a model for the positive relationship between low per capita resources and conflicts. Later studies have provided empirical evidence on this relationship.

Hauge and Ellingsen (1998) found that natural resource scarcity (including deforestation, land degradation, and fresh water scarcity) is positively associated with conflicts between community members. In the case of South Africa, home land scarcity led to violent conflict. Benjaminsen (2008) found that water resource scarcity resulted in community conflicts in Northern Mali. Koubi, Spilker, Böhmelt, and Bernauer (2014) find a positive relationship between natural resource scarcity and interstate conflict. Other studies imply that financial resource scarcity is associated with conflicts from agents, organizations, and individuals. Resource scarcity is a financial state in which governments cannot satisfy all citizens, stakeholders, and interest groups in delivering public services (Bozeman, 2010; Martin et al., 2012; McFarland & Pagano, 2014). But, we know little about how individuals, communities, and governments resolve conflicts from financial resource scarcity.

Meanwhile, Irland (1975) suggested a conflict management system to reach a consensus based on public support and public demands through citizen participation. He assumed that "biological harmony of uses is paralleled by consensus among competing groups of resource users"; thus, to resolve conflicts, governments need to establish a

participatory decision making system to inform citizens of public decisions, to receive public reviews for their decisions, and to make a feedback process for citizen input (1975, pp. 264-265). This system is applied to the development of performance indicators. The success of performance budgeting relies on the extent to which governments manage conflicts between stakeholders in developing performance indicators (Grizzle & Pettijohn, 2002). In this regard, citizen participation is a venue to inform suggested performance indicators, to receive public review and citizen input, and, finally, to establish legitimate performance indicators (Ho, 2006). Thus, it can help governments to reach a general consensus on suggested performance indicators without conflicts (Ho, 2006; Moynihan & Pandey, 2010).

Under the condition of financial resource scarcity, governments may need to manage conflicts from citizens, taxpayers, and employees in implementing fiscal retrenchment strategies such as public service cuts, increased tax rates, layoffs, and decreased employee benefits (Jimenez, 2014). Thus, governments may provide citizen participation mechanisms to inform suggested fiscal retrenchment strategies, to review the suggested fiscal retrenchments from the public, to merge citizen input into them, and to receive public support in resolving the conflicts. There are some cases where governments have provided various citizen participation mechanisms to receive public support for fiscal retrenchment strategies such as increased tax rates in response to resource scarcity during the Great Recession (Saintamour & Huggler, 2010; Hicks, 2011; Hoppe, 2014). System theorists argue that communication channels are needed to share citizen input in implementing public policies as well as to receive public support for policy decisions (Anderson & Guillory, 1997; Morgan et al., 2007; Schmidt, 2013). Based on this theory, the first hypothesis is addressed as follows:

H_1: *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel.*

3.2.2 Citizen participation, fiscal retrenchment, and fiscal recovery

The implementation of fiscal retrenchment strategies has been influenced by various decision making rules such as decrementalism (Schick, 1983; Wildavsky, 1984), the level of resource scarcity (Levine et. al., 1981), and conflicts from citizens, stakeholders, and interest groups (Wolman & Davis, 1980). Among them, I focused on the conflict-rule to explain a theoretical linkage between citizen participation, fiscal retrenchment, and fiscal health. With respect to the conflict-rule, empirical findings show that governments generally prefer to implement cost saving, and user charge and fee strategies that minimize conflicts from citizens, stakeholders, and interest groups if such conflicts are unmanageable (Kiefer et al., 2014; Jimenez, 2014; Schachter, 1983; Rubin, 1980; Wolman & Davis, 1980; Greenhalgh & McKersie, 1980; Peters & Rose, 1980). These studies imply that governments may implement another fiscal retrenchment strategy, such as tax policy and cost cuts, under the condition of manageable conflicts.

It has been argued that obtaining fair taxpayers who accept increased tax rates for the current level of public services as well as for government fiscal stress allows governments to implement tax policy strategies without conflicts (Simonsen & Robbins, 2003; Welch, 1985). Taxpayers who perceive governments provide full information about budget decisions and the high performance of public services tend to accept increased property tax rates (Kathlene & Martin, 1991; Miller & Miller, 1991). Thus, governments need to improve their

transparency and performance to prevent conflicts from taxpayers in implementing controversial fiscal policies (Simonsen & Robbins, 2003). Empirical findings support this argument. Welch (1985) found that most respondents of approximately 900 Midwestern households are willing to pay additional taxes for improved public services. In the case of Waterford, respondents with a lack of budget information are less likely to accept increased property taxes; conversely, respondents with perception of the excellent performance of public services are willing to pay additional property taxes (Simonsen & Robbins, 2003). Other empirical findings have been consistent with this evidence on citizens' willingness to pay additional taxes for improved budget information and public service performance in Florida cities (Beck, Rainey, Nicholls, & Traut, 1987; Beck, Rainey, & Traut, 1990) and Midwestern cities with a population of more than 300,000 (Glaser & Hildreth, 1999).

Meanwhile, it is argued that citizen participation may improve government transparency and performance by informing policy decision processes, receiving the public review on suggested policies, and merging citizen input into policy decisions (Koontz, 1999). Open government, free communication, and open discussions are the essentials of public participation (Redford, 1969). Public meetings and hearings may reduce information asymmetry by encouraging governments to provide information about their decision making (Evans & Campos, 2013; Frederickson & Smith, 2003). It has been empirically supported that citizen participation is positively connected with citizens' perceived government transparency (Kim & Lee, 2012; Koontz, 1999; Piotrowski & Van Ryzin, 2007). Indeed, citizen participation may improve government performance. Citizens with willingness to participate in government decisions tend to provide information about their demands for the implementation of public policies (Wang & Wan Wart, 2007). Thus, governments can

improve their performance by understanding public demands as well as by implementing public policies aligned with public demands (Koontz, 1999). Empirical findings show that citizen participation is positively associated with government performance regarding environmental policies (O'Rourke & Macey, 2003) and financial management (Neshkova & Guo, 2012).

The essentials of citizen participation may be applicable to the implementation of fiscal retrenchment strategies. Governments may improve their transparency and performance through citizen participation, thereby obtaining fair taxpayers with willingness to accept the implementation of controversial fiscal retrenchment strategies that may produce conflicts. In empirical findings, information from citizens about their public program priorities helps governments to allocate financial resources without conflicts from interest groups and stakeholders (Robbins, Simonsen, & Feldman, 2008). Simonsen and Robbins (2000) found that the city of Eugene, Oregon increased property tax rates through citizen surveys, and public meetings and hearings in response to budget shortfalls. The State of Maine raised tax rates and cut public services, through the use of public budget simulations, to deal with budget deficits (Morgan et al., 2007). The democratic financial management framework in figure 3.2.1 suggests that citizen participation enhance government competency and provide decision legitimacy to governments to manage conflicts of fiscal decisions. Drawing on this framework, the second hypothesis is addressed as follows:

H_2: *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies.*

Figure 3.2.3 A conceptual model for the theoretical linkage between citizen participation, fiscal retrenchment strategies, and fiscal health.

The feedback loop of the systems framework assumes that the political decision system is an open structure exposed to environmental factors (Easton, 1965b). The political decision system produces policies, regulations, and institutions for unsatisfactory environments; thus, outputs are consequences of administrative decisions (Easton, 1965a). Given this political system, fiscal health is an output affected by fiscal retrenchment strategies (Levine et al., 1981). It is argued that public decisions with a commitment to citizen participation may produce desired outputs and outcomes (Schmidt, 2013).

The conceptual model for the theoretical linkage between citizen participation, fiscal retrenchment strategies, and fiscal health as shown in Figure 3.2.3 assumes that the current fiscal health is a consequence from the past fiscal retrenchment strategies during the Great Recession. Fiscal health may vary depending on how governments can implement high conflict oriented fiscal retrenchment strategies for fiscal health by overcoming conflicts from citizens, stakeholders, and interest groups (see Caiden, 1984; Bahl & Duncombe, 1992; Wolman & Davis, 1980; Greenhalgh & McKersie, 1980; Peters & Rose,1980; Rubin, 1980). Thus, this study proposes the following hypothesis for the model comprising citizen

particpation, fiscal retrenchment, and fiscal health.

H_3: *Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health.*

3.3 Summary

This chapter introduced a classic systems framework by Easton (1957), applied systems frameworks by Morgan et al. (2007) and Levine, Rubin, and Wolohojian (1981), and reviewed the literature on systems theory. Although the applied systems frameworks emphasize the role of citizens at the municipal level and financial decision systems, little research has examined a theoretical linkage between environments, citizen participation, the fiscal decision system, and fiscal outputs at the municipal level. Meanwhile, Schmidt's democratic systems framework (2013) argues: (1) governments tend to use citizen participation termed as throughput to implement legitimate public decisions; (2) citizen participation can resolve possible conflicts in implementing public policies; and (3) legitimate public decisions established by citizen participation produce better policy performance.

Drawing on this democratic systems framework, I suggested the democratic financial management system comprising environments, communication channels, fiscal decisions, and fiscal outputs. The democratic financial management system argues: (1) local

governments may adopt citizen participation to implement legitimate fiscal decisions in response to environments; (2) citizen participation may enhance government competency and provide decision legitimacy to governments to manage conflicts of fiscal decisions; and (3) legitimate fiscal decisions established by citizen participation may produce better fiscal outputs.

Based on this framework this study proposes three hypotheses with models composed of fiscal stress, citizen participation, fiscal retrenchment, and fiscal recovery as follows: (1) *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel*; (2) *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies;* and (3) *Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health.* The next chapter designs a research method to test the hypotheses.

Chapter 4: Methodology

The previous chapter proposed three hypotheses: (1) *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel*; (2) *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies;* and (3) *Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health.*

The purpose of this chapter is to develop empirical models to test the hypotheses. First, data and samples from multiple sources including the 2009 ICMA (International City/County Management Association) survey, 2008, 2009 and 2013 CAFRs (Comprehensive Annual Financial Reports), and 2009 and 2013 ACS (American Community Survey). These data cover counties and cities, with a sample size of approximately 1,613, but the deleted samples for local governments with missing data for fiscal information variables resulted in the sample size of the models from 900 to 1,020. Second, I develop the three research models, which are seven equations for the citizen participation model, two equations for the fiscal retrenchment implementation model, and twelve equations for the fiscal recovery model. Third, key variables for the models are defined and operationalized. Fourth, I discuss the statistical methods for estimation to test the hypotheses and address their statistical limitations.

4.1 Data and sample

4.1.1 Citizen participation, fiscal retrenchment, and subjective fiscal health data

I used the 2009 International City/County Management Association (ICMA) survey for citizen participation, fiscal retrenchment,[2] and subjective fiscal health variables. Respondents answered the survey via mail and online. The 2009 ICMA survey was electronically distributed to 7,237 local governments with a population 2,500 and above including cities, counties, town and township, boroughs, and villages; 2,214 local governments responded to the survey, resulting in the response rate of 26%. I used responses from counties and cities that have a clear-cut political structure by either elected leaders or non elected leaders. Among the sample, 601 (27%) municipalities are identified as town and township, boroughs, villages and a consolidated city.[3] I excluded 601 responses samples to use only cities and counties. The sample size for the 2009 ICMA survey in this study is 1,613, before I merge it with fiscal and socio-demographic data. However, some local governments do not post their CAFRs on the website; furthermore, they do not respond to a request for their CAFRs. Consequently, the number of actual observations ranges from 900 to 1,020 because of the deleted samples for local governments with missing fiscal information data.

Among the overall 1,613 cities and counties in the study, 33% (533) of respondents have the elected-based government form including the mayor-council form and commission,

[2] ICMA surveys do not provide serial information about the implementation of fiscal retrenchment during the Great Recession. Thus, this study does not reflect the trend of the implementation of fiscal retrenchment strategies, but uses fiscal retrenchment decisions only for 2009 in examining the effect of fiscal retrenchment on fiscal health.

[3] The samples have only one consolidated government, which is the City and Borough of Yakutat. Yakutat has two kinds of government functions including city and borough; thus, it may generate biased results of fiscal health variables. To prevent possible biased results, this study does not use Yakutat to test the models in the samples.

and elected executive form, whereas 66% (1,080) of respondents have the non elected-based government form including the council-manager and administrator form. According to the 2011 ICMA Municipal Year book, among the municipalities with a population of 2,500 and over, elected-based governments are 34% and non elected-based governments are 66%. The distributional ratio between elected-based and non elected-based governments appears to be approximately 2:3. Comparing this distributional ratio between elected-based and non elected-based governments to the 2011 ICMA Municipal Year book, the sample of the non elected-based governments in this study is appropriate.

Approximately 86% of the total respondents were elected officials, city managers, and county administrators that closely engaged in a local decision-making process. Most of the others are finance directors, municipal clerks, treasurers, and auditors involved in budget decisions. This identification implies that the respondents of the 2009 ICMA survey played a crucial role in implementing fiscal retrenchment strategies to recover fiscal health in the budget process during the Great Recession. The 2009 ICMA survey provides information about uses of citizen participation, fiscal retrenchment strategies in the budget process, and perceived fiscal health during the Great Recession. Also, it offers measures for control variables such as political conflicts, and form of government.

4.1.2 Fiscal health data

Using 2008, 2009 and 2013 Comprehensive Annual Financial Reports (CAFRs),[4]

[4] Some local governments that are small may not provide CAFRs. This study excluded those local governments. The models and results should be understood in this context.

this study captures fiscal health of local governments. CAFRs are financial statements that show information about the current fiscal status of revenues and expenditures for state and municipal governments. The Governmental Accounting Standards Board (GASB) provides generally accepted standards of the financial accounting principles that are used to prepare a CAFR, which aids in comparability across jurisdictions.

Since the Great Recession, the GASB has pronounced twenty-two new standards from Statement No. 49 implemented on December. 15, 2007 to No. 70 implemented on June 15, 2013. Among them, there are two significant changes. First, 2009 CAFRs do not show financial information about a deferred outflow of resources and a deferred inflow of resources, whereas 2013 CAFRs include swap agreements as hedging instruments, based on GASB Statements No. 63 implemented on December 15, 2011, No. 64 implemented on June 15, 2011, and No. 65 implemented on December 15, 2012. The purpose of this change is to reduce uncertainty about a government's net position. Thus, fiscal health measured by assets and liabilities might be over-estimated in 2009. Second, GASB No. 54 implemented on June 15, 2010 required the re-classification of fund balance reporting and governmental fund type definitions to improve the consistency of financial information across jurisdictions. 2008 and 2009 CAFRs broadly show only two fund balances regarding reserved and unreserved funds, whereas 2013 CAFRs provide the details of fund balances regarding nonspendable, restricted, committed, assigned, and unassigned funds. To develop fiscal health indicators for stabilization arrangements, I used the total unreserved fund balance in 2008 and 2009 CAFRs and total unassigned fund balance in 2013 CAFRs. The total unreserved fund balance included other special purposes and classifications, but this is not the case for the total unassigned fund balance used for general funds and all spendable amounts in the future. Thus,

fiscal health measured by the total unreserved fund balance in 2008 and 2009 CAFRs may be over-estimated.

CAFRs show various dimensions of fiscal health with short-term and long-term financial management, whereas general budget documents concentrate on short-term financial management with cash-based activities (Reck, Lowensohn, & Wilson, 2012). Thus, CAFRs are appropriate fiscal data to capture multiple dimensions of local fiscal health rather than general budget documents. I extracted local fiscal health from 2008, 2009, and 2013 CAFRs in order to capture the difference of local fiscal recovery between the Great Recession and post-Great Recession. To test the association between the Great Recession and citizen participation, and citizen participation, fiscal retrenchment, and fiscal health, I merged CAFRs with the 2009 ICMA survey.

4.1.3 Socioeconomic data

The U.S. Census Bureau annually provides the American Community Survey (ACS) with socioeconomic condition of municipalities. This data includes a variety of socioeconomic and demographic data (U.S. Census of Bureau, 2015). I used the 2009 and 2013 ACS to capture information about socioeconomic condition of local governments during the Great Recession. The 2009 and 2013 ACS offer population, per capita income, unemployment rate, family poverty growth, racial diversity, education attainment, and elder population as control variables.

4.2 Citizen participation model

The first of the three models is a citizen participation model to test the following hypothesis: *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel.* The dependent variable of the citizen participation model is a dummy variable as to whether local governments merged citizen input into their budget process; thus, I employed Logistic Regression as an estimation method to test the citizen participation model. The basic equation of the citizen participation model is as follows:

$$Citizeninput\_Involvement_{it} = \alpha_0 + \beta_1 Fiscal\_health_{it} + \beta_2 Fog_{it} + \beta_3 Code\_ethics_{it} + \beta_4 Political\_culture_{it} + \beta_5 Racial\_Diversity_{it} + \beta_6 Political\_conflicts_{it} + \beta_7 Pop\_size_{it} + \beta_8 Income_{it} + \beta_9 Government\_type_{it} + \varepsilon$$

I used seven equations for the citizen participation model in order to resolve a possible multicollinearity problem from the objective fiscal health variables including the unassigned fund balance, general fund ratios, unrestricted net assets, long-term liability, and net assets. The first five equations each include one of these fiscal health variables. The next equation includes two fiscal health indexes comprising the same factors of the objective fiscal health variables by factor analysis. The details of the two fiscal health indexes are shown in Table 4.2.1. The last equation includes all five of the objective fiscal health variables.

4.2.1 Dependent variables

Citizen input involvement is used to capture citizen participation in the budget process. To develop this measure, I extracted the question from the 2009 ICMA survey: "Were citizens involved in decision making related to the fiscal crisis, such as decisions about how to allocate resources?" It has been argued that citizen participation should be implemented to merge citizen input into government decision making (Thomas, 1995; Ebdon & Franklin, 2004; Kathlene & Martin, 1991). The citizen input involvement variable is designed to consider this argument. Thus, the question is intended to capture citizen involvement in bugetary decision making. Table 4.2.1 shows the details of the citizen participation measure for the citizen participation model. The measure stems from the survey question as to whether citizen input influenced fiscal decisions during the Great Recession. This measure is a dummy variable that 1,448 (89.6%) respondents answered. Among them, 408 respondents (28.1%) replied that their local governments involved citizen input in fiscal decision making during the Great Recession.

Table 4.2.1 Variables in the citizen participation model

Measurement	Description	Expected Sign	Data Sources
Dependent Variables			
Citizen participation	Citizen input involvement (dummy variable, 1: yes, 0: otherwise): "Were citizens involved in decision making related to the fiscal crisis, such as decisions about how to allocate resources?"	N/A	ICMA
Independent variables			
Unreserved and undesignated fund balance ratio (Budget stability)****	Total Unreserved, undesignated general fund balance / Total general fund expenditures ** (%)	-	CAFR
General fund ratio (Budget surplus)	Total general fund revenues / Total general fund expenditures ** (%)	-	CAFR
Unrestricted net asset ratio	Unrestricted net assets / expenses * (%)	-	CAFR
Net asset ratio	Restricted and unrestricted net assets (total net position) / total assets * (%)	-	CAFR
Long-term liability ratio	Long-term liabilities (non-current) / total assets * (%)	+	CAFR
Fiscal health index 1	Standardized scores of same fiscal health factors: Net asset, unrestricted net asset, and long-term liability	-	CAFR
Fiscal health index 2	Standardized scores of same fiscal health factors: Unreserved fund balance and general fund balance	-	CAFR
The effects of the Great Recession	"To what extent is your local government affected by the financial crisis in the U.S. economy?" (Likert-5-Type Scale, 1: not at all, 5: severely)***	+	ICMA
Control variables			
Form of Government	Form of government (dummy variable, 1: the non-elected leader-based form, 0: the elected leader-based form)	+/-	ICMA
Code of Ethics	The adoption of code of ethics (dummy variable, 1: yes, 0: no): "Does your local government have a code of ethics?"	+	ICMA
Political Culture	(1) Moralistic local governments (dummy variable, 1: northern local governments, 0: otherwise)	+	ICMA
	(2) Traditional local governments (dummy variable, 1: southern local governments, 0: otherwise)	-	ICMA
Racial diversity	Percentage of non-white population	+	ACS
Political conflicts	"Please indicate on the following scale your opinion of the effectiveness of your council, board, or commission as a decision-making body. Consider the speed and ease with which the members reach consensus, how well they work together, and the degree to which political and personality conflict interfere" (Likert-5-Type Scale, 1: highly effective, 5: not effective)	+	ICMA
Population	Population	+	ACS
Income	Per capita income	+	ACS
Government type	City or County (dummy variable, 1: cities, 0: counties)	+/-	ICMA

*Note: * Government-wide, ** General fund, *** Subjective fiscal health variable, **** I used an unassigned fund balance for 2013CAFRs due to the change in the GASB No. 54.*

4.2.2 Independent variables

There is no agreement on the best way to measure fiscal stress or fiscal health. However, various studies prefer to use multi-dimensional fiscal health measures because multi-dimensions allow scholars to measure fiscal health from various angles, and fully represent fiscal health affected by its determinants (Maher, 2013; Rivenbark & Roenigk, 2011; Dollery & Grant, 2011; Raju, 2011; Chaney, 2005; Kloha, Weissert, & Kleine, 2005; Brown, 1993). Furthermore, multi-dimensional fiscal health measures can reflect 'time frame' for the following concern: "because current financial and service obligations often stretch into the future (e.g., debt and pension obligations), assessments of current fiscal health also must recognize current and likely future fiscal states" (Jacob & Hendrick, 2012, p. 13). However, multi-dimensional fiscal health measures may provide mixed findings from which all fiscal health measures may not have the same direction of the dependent variable in the citizen participation model; furthermore, they may generate a muliticollinearity problem. Thus, as another objective measure, index variables are employed to capture fiscal health as shown in Table 4.2.1.

During the Great Recession, four environmental threats may determine fiscal health of local governments. First, local governments were faced with the collapse of three major taxes including property, sales, and income taxes. These collapses may cause budget deficits of general funds in delivering basic public services in the near term. Second, as one of the immediate fiscal threats, a decrease in intergovernmental revenues may weaken the local fiscal ability to extinguish current liabilities including both governmental and business-type activities in the short-term. Third, the expansion of employee benefits and the collapse of the financial markets may lead to local financial difficulties to pay long-term liabilities such as

pension and debt under the severe economic condition. Lastly, the anti-tax mood may discourage local governments from increasing their own revenue sources; conversely, it may encourage local governments to use their budget stabilization funds to maintain fiscal health. Thus, three strategies are suggested to capture fiscal health during the Great Recession. First, this study reflects 'time frame' in measuring fiscal health. Second, both general funds and government-wide funds are employed to capture fiscal health. Third, budget stability of local governments is included in fiscal health measures.

To modify the different scale of local governments, all objective variables are transformed into ratio and per capita variables. The following two measures are intended to capture the budget stability and budget surplus of general funds in maintaining basic public services at the local level. The first measure is an unreserved and undesignated fund ratio as a percentage of total general fund expenditures. Unreserved and undesignated funds are not assigned to use for specific fiscal purposes; thus, local governments can use these funds to overcome fiscal stress such as budget deficits. Relatively, local governments do not have fiscal discretion in using reserved funds and designated funds, which have particular fiscal purposes. The second measure is a general fund ratio calculated by total general fund revenues as a percentage of total general fund expenditures. General fund balances do not capture the financial management of a current fiscal year because they include the cumulative budget surplus or deficits of previous years. This inclusion may over or underestimate fiscal health for a current year. Furthermore, it is possible that the net change in general fund balance ratio may not capture the fiscal health of own financial sources because it reflects the fiscal ability to generate revenues from other financing sources. Thus, I employed a general fund ratio as the second measure to capture the fiscal health of local

governments. The unreserved and undesignated fund ratio and general fund ratio has negative expected signs on the use of citizen participation in the budget process.

The assessment of current fiscal health may determine future fiscal states relevant to pension and debt (Jacob & Hendrick, 2012). The following three fiscal health measures are intended to capture this long-term fiscal health and ability to pay obligations in government-wide funds. As the third measure, an unrestricted net asset ratio is used to capture the fiscal stability of government-wide funds. The unrestricted net asset ratio is used to supplement the weakness of the net asset ratio because the net asset ratio does not fully represent the fiscal discretion to stabilize financial resources in government-wide funds because of the inclusion of restricted net assets. The unrestricted net asset ratio measure is calculated by unrestricted net assets as a percentage of total expenses. The fourth measure is a net asset ratio that broadly captures a balance between assets and liabilities in government-wide funds. The net asset ratio measure is calculated by restricted and unrestricted net assets (total net position) as a percentage of total assets. However, the net asset ratio may not fully capture a long-term fiscal health at the local level because it also has current liabilities. Thus, the fifth measure is a long-term liability ratio that focuses on non-current liabilities. The long-term liability measure is calculated by long-term liabilities (non-current) as a percentage of total assets in government-wide funds. The unrestricted net asset ratio and net asset ratio have negative expected signs on the use of citizen participation in the budget process; reversely, the long-term liability ratio has a positive expected sign on the use of citizen participation in the budget process.

The last measures are two fiscal health indexes that were used in a separate equation from the other fiscal health variables. The first fiscal index is composed of net asset,

unrestricted net asset, and long-term liability; and the second one includes unreserved fund balance and general fund balance. Three stages were needed to create the fiscal health indexes. First, the variable of the long-term liability ratio should be consistent with other fiscal health measures (Wang, Dennis, and Tu, 2007). Thus, the values of the long-term liability were reversed. Second, I aggregated the same factors of the objective fiscal health measures by factor analysis. Third, the same factors were calculated to create a fiscal heath index with standardized scores (Wang, Dennis, and Tu, 2007). The fiscal health indexes are employed to resolve a possible multicollinearity problem and to improve the robustness of the fiscal health measures in examining the effect of fiscal stress on citizen participation. The fiscal health indexes have a negative expected sign on the use of citizen participation in the budget process. The equation to make standardized scores is as follows:

$$Fiscal\ health\ index = \frac{(X - \mu)}{\sigma}$$

X: An individual fiscal health measure value
μ: The mean of an individual fiscal health measure value
σ: The standard deviation of an individual fiscal health measure value
Fiscal health index: Standardized scores

Although the literature emphasizes objective measurement to capture fiscal health, Maher and Deller (2013) pointed out that there is an imbalance between perceived and actual fiscal health because of the possibility that perceived fiscal stress is different from actual fiscal health. Budget decision makers generally rely on their perceived fiscal health in implementing fiscal strategies (Maher & Deller, 2013). In bounded rationality, public decision makers cannot recognize all factors that determine public decisions; consequently,

they implement public policies with their limited experiences and information (Simon, 1997). In the continuum of this argument, perceived fiscal health might be inconsistent with objective fiscal health during the Great Recession. Table 4.2.1 shows the question to capture fiscal health in the 2009 ICMA survey: "To what extent is your local government affected by the financial crisis in the U.S. economy?" This question is a Likert scale measure comprising "not at all," "minimally," "moderately," "significantly," and "severely" ranging from 1 to 5; the higher the score, the more severe the perceived effects of the Great Recession. The subjective fiscal health has a positive expected sign on the use of citizen participation in the budget process.

It should be noted that this study has a concern about endogeneity on the relationship between fiscal stress and citizen participation. Various studies have shown that most U.S. local governments have a fiscal year from July 1 to June 30 (Huddleston, 2005; Lewis & Hildreth, 2013; Mikesell, 2007). The 2009 ICMA survey was distributed to local governments from May 1 to July 31, and the 2009 CAFR data is for the period from July 1, 2008 to June 30, 2009 for most of the sample. Since the fiscal year was over or almost over at the time the survey was conducted, there seems to be little concern of endogeneity on the relationship between fiscal stress and citizen participation. However, I examined the fiscal years of the sample to determine whether this is an issue.

4.2.3 Control variables

Institutions, culture, and socio-demographic factors have been suggested to promote the use of citizen participation in the literature. Table 4.2.1 shows the details of the control

variables. With respect to institutions, I extracted form of government and code of ethics. The 2009 ICMA survey provides seven types of form of government including the mayor-council form and council manager form, commission, town meeting, representative town meeting at the city level, and commission, administrator, and elected-executive form at the county level. I established a dummy variable by re-classifying these forms of government as elected leader-based and non-elected leader-based governments. The elected leader-based governments encompass the mayor-council form and commission, and elected executive form, whereas the non-elected leader-based governments include the council-manager and administrator form. Based on this re-classification, the non-elected leader-based form is coded as '1' and the elected leader-based form is coded as '0.' The literature shows mixed conclusions on the relationship between form of government and citizen participation in the budget process (Franklin & Ebdon, 2005; Koontz, 1999; Morgan, England, & Pelissero, 2007; Yang & Callahan, 2007; Zhang & Liao, 2011). Thus, the expected sign is not clear for this variable.

The second institutional variable is code of ethics extracted from the 2009 ICMA survey. Lawton and Macaulay (2014) argue that governments should make a transparent decision making process to merge citizen input into government decisions, finding that establishing standards of democratic governance is positively associated with the use of citizen participation. A code of ethics encourages local governments to share information about policy and fiscal decisions (Berman, West, & Cava, 1994). The 2009 ICMA survey asked a question: "Does your local government have a code of ethics?" Code of ethics is a dummy variable where the adoption of code of ethics is '1' and '0' otherwise. Code of ethics has a positive expected sign on citizen participation.

On the side of culture, Ebdon (2000) argues that the use of participatory budgeting varies depending on the types of political culture, finding that northern moralistic cities tend to provide more participatory budgeting methods than other cities such as southern cities with traditional cultures and middle cities with individualistic culture. I coded the sample cities as northern,[5] southern,[6] and middle portion[7] local governments with Elazar's typology (1994). The political culture variable is composed of two dummy variables: in the first one, northern local governments are '1' and '0' otherwise; in the second one, southern local governments are '1' and '0' otherwise. Middle portion local governments are excluded in the equations of the citizen participation model. Northern local governments have a positive expected sign on citizen participation; conversely, there is a negative expected relationship between southern local governments and citizen participation.

I extracted racial diversity and population as representing socio-demographic variables to influence citizen participation. Marlowe and Portillo (2006) conclude that governments with greater community diversity tend to use participatory budgeting to resolve political conflicts from diversified residents. In this regard, community diversity and political conflicts may be the determinants of participatory budgeting. In the diversity variable, I focused on racial diversity as a percentage of non-white population from the 2009 ACS. Also, the 2009 ICMA survey asked a question: "Please indicate on the following scale your

---

[5] Moralistic culture: New England (Maine, New Hampshire, and Vermont) / Midwest (Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota) / West (Colorado and Utah) / Far West (Oregon and Washington)

[6] Traditionalistic culture: South Atlantic (Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, District of Columbia) / East South-Central (Alabama, Kentucky, Mississippi, and Tennessee) / West South-Central (Arkansas, Louisiana, Oklahoma, and Texas)

[7] Individualistic culture: Mid-Atlantic (New Jersey, New York, and Pennsylvania) / West (Arizona, Idaho, Montana, Nevada, New Mexico, and Wyoming) / Far West (Alaska, California, and Hawaii) / New England (Connecticut, Rhode Island, and Massachusetts)

opinion of the effectiveness of your council, board, or commission as a decision-making body. Consider the speed and ease with which the members reach consensus, how well they work together, and the degree to which political and personality conflict interfere." This question is a Likert Scale measure ranging from '1' as "highly effective" to '5' as "not effective." The higher the scores for this question, the more the respondents have political conflicts. Political conflict and diversity variables have a positive expected sign on citizen participation in the budget process. Yang and Callahan (2007) conclude that larger cities tend to implement citizen participation in performance budgeting. Public officials tend to perceive that citizen participation is useful for communities that have a higher level of income (Marlowe & Portillo, 2005). Population and per capita income variables have a positive expected sign on participatory budgeting.

The administrative functions of cities are different from counties. This difference may produce variations in fiscal decisions between cities and counties. Thus, type of government is included as a control variable. A dummy variable is included, where cities are coded as '1' and counties as '0.' Little research has been devoted to the relationship between type of government and citizen participation. Thus, the expected sign for this variable is not clear.

4.2.4 Estimation strategy

Logistic regression is employed to test all equations in the citizen participation model that has a dummy variable for citizen input involvement. The purpose of logistic regression is to estimate the odds ratio as representing the probability that independent

variables (predictors) produce a particular outcome that is a case as '1' divided by a non-case as '0' (Greene, 2011). While the OLS estimator is based on normally distributed residuals, logistic regression uses maximum likelihood estimation to test whether a particular case appears or not (Stock & Watson, 2007). Thus, logistic regression does not need the below assumptions. First, the sample has a normal distribution that given X values are not correlated to an error term as representing omitted factors. Second, fiscal stress and citizen participation across municipalities are independently and identically distributed (i.i.d.). To satisfy i.i.d., survey data is randomly selected from a single large population. Third, there are no large outliers that may produce biased estimation.

The 2009 ICMA survey data is sampled from a single large population of local governments with a population 2,500 and above. This study has concerns about large outliers. Thus, robust estimation is used for the heteroscedascity of the samples.

4.3 Fiscal retrenchment implementation model

The second model is a fiscal retrenchment implementation model to test the following hypothesis: *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies.* The dependent variable of the fiscal retrenchment implementation model is an ordinal variable comprising a high, middle, and low conflict-oriented fiscal retrenchment composition. Thus, I employed Ordered Logistic Regression as a main method for the fiscal retrenchment implementation model. Additionally, I employed Two-Stage Least Squares (2SLS) Regression for the possible endogeneity for the relationship between citizen

participation and fiscal retrenchment (see Appendix). Thus, two equations were used for the fiscal retrenchment implementation model. The basic equation of the fiscal retrenchment implementation model is as follows:

$$
\begin{aligned}
Fiscal\_retrenchment_{it} = {} & \beta_0 + \beta_1 Citizen\_involvement_{it} + \\
& \beta_1 Unreserved\_undesignated\_fund\_balance_{it} + \beta_2 General\_fund\_ratio_{it} \\
& + \beta_3 Net\_asset\_ratio_{it} + \beta_4 Unrestricted\_ratio_{it} + \\
& \beta_5 LTERM\_liability\_ratio_{it} + \beta_6 Great\_recession_{it} + \\
& \beta_7 Intergovernmental\_revenue\_ratio_{it} + \beta_8 FOG_{it} + \beta_9 Code\_ethics_{it} + \\
& \beta_{10} Racial\_diversity_{it} + \beta_{11} Political\_conflicts_{it} + \beta_{12} Union\_coverage_{it} + \\
& \beta_{13} Population_{it} + \beta_{14} Percapita\_income_{it} + \beta_{15} Education_{it} + \\
& \beta_{16} Elder\_POP_{it} + \beta_{17} Local\_Autonomy_{it} + \beta_{18} TELs\_Index_{it} + \\
& \beta_{19} Goverment\_type_{it} + \varepsilon
\end{aligned}
$$

4.3.1 Dependent variables

The 2009 ICMA survey provides two questions about the implementation of fiscal retrenchment strategies in response to fiscal crisis during the Great Recession: (1) "Which of the following measures has your local government implemented to address the fiscal crisis?" and (2) "In response to financial conditions, please describe three revenue enhancements and budget reductions you have implemented." I used these questions as measures for the implementation of fiscal retrenchment strategies during the Great Recession. Jimenez (2014) employed these measures to examine the association between citizen participation and fiscal retrenchment. This association partly appears in the democratic financial management framework that has the logical linkage between citizen participation and fiscal retrenchment.

However, this study has different views on fiscal retrenchment measures compared to Jimenez' (2014) measures. First, suggested fiscal retrenchment measures in this study reflect actual fiscal retrenchment adoption behaviors by considering both revenue-raising and expenditure cuts simultaneously. Although local governments implement mixed fiscal retrenchment strategies including revenue and expenditure strategies in general, Jimenez (2014) did not consider such mixed fiscal retrenchment strategies but separated revenue-raising from expenditure cuts in examining the association between citizen participation and fiscal retrenchment. Second, I focused on the composition of fiscal retrenchment strategies, whereas Jimenez (2014) tried to examine the effect of citizen participation on individual fiscal retrenchment strategies. Generally, local governments implement a variety of fiscal retrenchment strategies simultaneously, rather than rely only on a single fiscal retrenchment strategy.

The choices of fiscal retrenchment strategies may vary depending on conflicts from citizens, taxpayers, and interest groups as well as on their expected rewards. The literature shows variations in conflicts and rewards of fiscal retrenchment sets. First, governments with both tax policy and cost cutting strategies in their composition of fiscal retrenchment may expect high conflict and rewards in implementing fiscal retrenchment strategies for fiscal health. Fiscal retrenchment strategies targeting a particular interest group and stakeholder increase political conflicts (Levine et al., 1981). Nevertheless, fiscal reformers who focus on maximizing fiscal recovery tend to adopt tax policy and cost cutting strategies rather than fee and charge, and cost saving strategies (Bahl & Duncombe, 1992). On the side of expenditure cuts, eliminating public services and layoffs generates political conflicts from public service recipients and employee-unions (Levine et al., 1981b).

Second, governments with either tax policy or cost cutting strategies in their composition of fiscal retrenchment may expect middle conflict and rewards in implementing fiscal retrenchment strategies for fiscal health. Peters and Rose (1980) argue that fiscal reformers attempting to avoid conflicts tend to implement either tax policy strategies or cost cutting strategies. Fiscal reformers cannot maximize fiscal recovery under expenditure cuts-focused fiscal retrenchment strategies without raising tax revenues (Rubin, 1980). The political vulnerability of eliminated services and layoffs is lower than revenue-raising strategies (see Wolman & Davis, 1980; Jimenez, 2014), even though their rewards contribute to fiscal recovery immediately (Greenhalgh & McKersie, 1980).

Third, governments without both tax policy and cost cutting strategies in their composition of fiscal retrenchment may expect low conflict and rewards in implementing fiscal retrenchment strategies for fiscal health. Citizens tend to have a positive view of an increase in fees and charges and this positive view makes it easy for fiscal reformers to adopt them rather than other revenue raising strategies (Jimenez, 2014; Bartle, 1996). Furloughs, travel budgets, and professional development budgets comprise a relatively small portion of total operating costs. Indeed, frozen salaries and hires, deferred capital projects, and grant applications are not perceived as having large effects on fiscal health among various fiscal retrenchment strategies because they focus on saving future costs but not on cutting current costs (Levine et al., 1981). Although budget reformers can avoid political conflicts by adopting this set, its rewards are lower than the other sets including tax policy and cost cutting strategies (see Brecher & Horton, 1985).

I identified three types of fiscal retrenchment composition based on the literature: (1) high conflict-oriented fiscal retrenchment set, (2) middle conflict-oriented fiscal

retrenchment set, and (3) low conflict-oriented fiscal retrenchment set. The respondents of the 2009 ICMA[8] survey provide multiple answers to the first question: "Which of the following measures has your local government implemented to address the fiscal crisis?" Fiscal retrenchment information about user charges and fees, intergovernmental revenues, cost-cutting, and cost saving is extracted from this question as shown in Table 4.3.1. Because the first question did not encompass tax policy strategies, I also used another question (open-ended) to capture the implementation of tax-raising strategies during the Great Recession: "In response to financial conditions, please describe three revenue enhancements and budget reductions you have implemented." Thus, fiscal retrenchment information about tax policy is extracted from this question as shown in the table 4.3.1.

The fiscal retrenchment composition is an ordinal variable ranging from '1' as representing a low conflict-oriented fiscal retrenchment composition to '3' as representing a high conflict-oriented fiscal retrenchment composition. Using the types of fiscal retrenchment sets, I re-coded these two questions to reflect the composition of fiscal retrenchment strategies on the revenue-raising side as well as the expenditure-cut side. A high conflict-oriented fiscal retrenchment set is coded as '3' for local governments that included both tax policy and cost cutting strategies in their fiscal retrenchment composition. A middle conflict-oriented fiscal retrenchment set is coded as '2' for local governments that included either tax policy or cost cutting strategies in their fiscal retrenchment strategies.

[8] The 2009 ICMA survey does not provide information about implemented fiscal retrenchment strategies from 2010 to 2013. Local governments generally preferred to implement user charge and fee strategies on the revenue raising side as well as cost-saving strategies on the expenditure cut side. This preference is aligned with the trend of implemented fiscal retrenchment strategies from 2008 to 2014 city fiscal conditions reports by National League of Cities (see Figure 2.4.1, 2.4.2, and 2.4.3). City fiscal reports from 2008 to 2014 show that city governments have a priority to increase fees and charges on the revenue raising side as well as to freeze hires and salaries on the expenditure cut side. Thus, the 2009 ICMA survey is appropriate to understand choices of fiscal retrenchment strategies.

Lastly, a low conflict-oriented fiscal retrenchment set is coded as '1' for local governments that excluded both tax policy and cost cutting strategies in their fiscal retrenchment strategies.

Table 4.3.1 Multiple answers of implemented fiscal retrenchment strategies for fiscal crisis

Dimensions	Strategies	Tactics	Frequency (%)
Revenue-raising	Tax policy	Increased property tax	83 (5.1)
		Increased sales tax	46 (2.8)
		Increased income tax	4 (0.2)
	User charges and fees	Increased existing fees for services	685 (42.4)
		Added new fees for services	336 (20.8)
	Intergovernmental revenues	Applied for grants	47 (2.9)
Expenditure cutbacks	Cost cutting	Eliminated services	220 (13.6)
		Laid off staff	302 (18.7)
		Revised union contracts to reduce pay or benefits	184 (11.4)
		Reduced salaries	103 (6.4)
		Implemented *targeted* cuts in expenditures	766 (47.4)
		Reduced services	523 (32.4)
		Implemented *across-the board* cuts in expenditure	430 (26.6)
	Cost-saving	Eliminated or significantly reduced travel budget	683 (42.3)
		Eliminated or significantly reduced professional development budget	429 (26.6)
		Implemented furloughs for staff/ reducing the number of hours worked	173 (10.7)
		Eliminated positions	626 (38.8)
		Frozen salaries	642 (39.8)
		Left vacant positions unfilled	1,009 (62.5)
		Deferred capital projects	872 (54.0)
N			1,615

Source: The 2009 ICMA survey

I expected that local governments with the implementation of the high conflict-oriented fiscal retrenchment would be more likely to improve their fiscal health than others. For example, among the sample, the county of Cattaraugus, New York implemented

increased property taxes, increased existing fees, added new fees for services, reduced services, eliminated services, left vacant positions unfilled, eliminated positions, reduced travel budgets, implemented target cuts, deferred capital projects, and revised union contracts. This fiscal retrenchment composition is coded as '3' because the county included increased property taxes as representing tax policy, and eliminated services, revised union contracts, implemented targeted cuts, and reduced services as representing cost-cutting. The details of the variables in the fiscal retrenchment model are shown in Table 4.3.2.

Table 4.3.2 Variables in the fiscal retrenchment implementation model

Measurement	Description	Expected Sign	Data Sources
Dependent Variables			
Fiscal retrenchment strategy	The composition of fiscal retrenchment strategies (ordinal variable): Both tax policy and cost-cutting strategy: High conflict-based fiscal retrenchment set coded as 3, Either tax policy and cost-cutting strategy: Middle-conflict-based fiscal retrenchment set coded as 2, No tax policy and cost-cutting strategy: Low-conflict-based fiscal retrenchment strategy coded as 1	N/A	ICMA
Independent variables			
Citizen participation	Citizen input involvement (dummy variable, 1: yes, 0: otherwise): "Were citizens involved in decision making related to the fiscal crisis, such as decisions about how to allocate resources?"	+	ICMA
Control variables			
2008 unreserved and undesignated fund balance ratio (Budget stability)****	Total Unreserved, undesignated general fund balance / Total general fund expenditures ** (%)	-	CAFR
2008 general fund ratio (Budget surplus)	Total general fund revenues / Total general fund expenditures ** (%)	-	CAFR
2008 net asset ratio	Restricted and unrestricted net assets (total net position) / total assets * (%)	-	CAFR
2008 unrestricted net asset ratio	Unrestricted net assets / expenses * (%)	-	CAFR
2008 long-term liability ratio	Long-term liabilities (non-current) / total assets * (%)	+	CAFR
The effects of the Great Recession	"To what extent is your local government affected by the financial crisis in the U.S. economy?" (Likert-5-Type Scale, 1: not at all, 5: severely)***	+	ICMA
2008 intergovernmental revenues	Intergovernmental revenues / total general fund revenues ** (%)	-	CAFR
Form of Government	Form of government (dummy variable, 1: the non-elected leader-based form, 0: the elected leader-based form)	+	ICMA
Code of Ethics	The adoption of code of ethics (dummy variable, 1: yes, 0: no): "Does your local government have a code of ethics?"	+	ICMA
Racial diversity	Percentage of non-white population	-	ACS
Political conflicts	"Please indicate on the following scale your opinion of the effectiveness of your council, board, or commission as a decision-making body. Consider the speed and ease with which the members reach consensus, how well they work together, and the degree to which political and personality conflict interfere" (Likert-5-Type Scale, 1: highly effective, 5: not effective)	-	ICMA
Union coverage	Each state and local government workers covered by a collective bargaining agreement / Each total state and local governments employments (%)	-	Union Membership and Coverage

			Database
Population	Log population	-	ACS
Income	Log per capita income	-	ACS
Education attainment	High school graduate / population 25 years and over (%)	+/-	ACS
Elder population	Population aged 65 and over / total population (%)	-	ACS
Local autonomy	The overall local government autonomy index :Factor scores of state local autonomy on local debt, property tax rate, revenues, and expenditures	+	Wolman et al. (2010)
TELs index	The restrictedness of TELs ranging from 1 to 27	+/-	Amiel et al. (2009).
Government type	City or County (dummy variable, 1: cities, 0: counties)	+/-	ICMA

*Note: * Government-wide, ** General fund, *** Subjective fiscal health variable, **** I used an unassigned fund balance for 2013CAFRs due to the change in the GASB No. 54.*

4.3.2 Independent variables

The citizen participation variable for the fiscal retrenchment implementation model is the same as the dependent variable for the citizen participation model. The key independent variable is citizen participation involvement to examine whether local governments are committed to citizen participation in the budget process. The 2009 ICMA survey asked a question: "Were citizens involved in decision making related to the fiscal crisis, such as decisions about how to allocate resources?" I used this question to capture citizen participation involvement. This measure is a dummy variable that 1,448 respondents answered. Among them, 408 respondents (28.1%) replied that their local governments involved citizen input in fiscal decision making during the Great Recession. Various studies have argued that citizen participation should be implemented to merge citizen input into government decision making (Thomas, 1995; Ebdon & Franklin, 2004; Kathlene & Martin, 1991). Thus, the question is employed to reflect this argument.

4.3.3 Control variables

Resource scarcity, conflict, socio-demographic, and institutional factors have produced variations in fiscal retrenchment strategies. Table 4.3.2 shows the details of the control variables for the fiscal retrenchment implementation model. Levine et. al. (1981) argue that the implementation of fiscal retrenchment strategies varies depending on the level of resource scarcity. Based on this argument, there are seven fiscal health variables to control the fiscal retrenchment implementation model on the resource scarcity side. As mentioned above in the citizen participation model, to capture fiscal health during the Great Recession, I employed the five objective variables including the unassigned fund balance, general fund ratios, unrestricted net asset, long-term liability, and net asset, and the Great Recession as representing a subjective Likert-type variable from the 2009 ICMA question: "To what extent is your local government affected by the financial crisis in the U.S. economy?" These fiscal health measures in the fiscal retrenchment implementation model are the same as those used in the citizen participation model.

Bartle (1996) adopted intergovernmental revenues to examine variations in fiscal retrenchment strategies in the case of New York state cities. Thus, general intergovernmental revenues as a percentage of general fund revenues are additionally employed as a control variable for the fiscal retrenchment implementation model. To resolve a possible endogeneity problem, I used the 2008 CAFR data. Previous fiscal conditions can influence current fiscal decisions and future fiscal health (Jacob & Hendrick, 2012). Thus, fiscal decision makers may implement fiscal retrenchment strategies in response to the financial condition of the Great Recession. The 2008 CAFR data is for the period from July 1, 2007 to June, 2008 and the Great Recession is for the period from May 2007 to October 2009. Although I use the

2008 CAFR data to resolve the endogeneity on the relationship between fiscal health and fiscal retrenchment, the 2008 CAFR may not fully represent the financial condition of the Great Recession. Thus, this study has a limitation about the fiscal health control variables in the fiscal retrenchment implementation model. The unassigned fund balance, general fund ratios, unrestricted net assets, net assets, and intergovernmental revenues have negative expected signs on the implementation of a higher conflict-oriented fiscal retrenchment composition; reversely, long-term liability and the Great Recession have positive expected signs on the implementation of a higher conflict-oriented fiscal retrenchment composition.

The implementation of fiscal retrenchment strategies varies depending on the extent to which decision makers fully manage conflicts from citizens, stakeholders, and interest groups (Wolman & Davis, 1980). With respect to conflict, I extracted form of government, code of ethics, racial diversity, political conflicts, and union coverage from the literature on fiscal retrenchment. Politically insulated governments can focus on efficiency in implementing fiscal retrenchment (Morgan & Pammer, 1988). Based on this argument, the first measure on the conflict side is a dummy variable as to whether local governments have the elected leader-based form or non elected-leader based form. The non elected leader-based form has a positive expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition.

Rubin (1980) concludes that public officials' transparency has a positive relation to the implementation of the cost cutting strategies such as layoffs and reduced benefits. The second measure on the conflict side is a code of ethics as a dummy variable from the 2009 ICMA question: "Does your local government have a code of ethics?" Code of ethics has a positive expected sign on the implementation of a higher conflict-oriented fiscal

retrenchment composition.

Local governments with a higher racial diversity tend to avoid higher conflict-oriented fiscal retrenchment strategies (Jimenez, 2014). Thus, the third measure on the conflict side is racial diversity as a percentage of non-white population from the American Community Survey (ACS). Racial diversity has a negative expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition.

The tax policy and cost cutting strategy may generate conflicts of council members who represent the interests of citizens and taxpayers. Based on this possibility, the fourth measure on the conflict side is a Likert-type political conflict variable from the 2009 ICMA question: "Please indicate on the following scale your opinion of the effectiveness of your council, board, or commission as a decision-making body. Consider the speed and ease with which the members reach consensus, how well they work together, and the degree to which political and personality conflict interfere." Political conflicts have a negative expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition.

Employee unions are key actors to successfully implement cost cutting strategies such as revised benefits and layoffs (Schachter, 1983). Thus, the last measure on the conflict side is a union coverage variable calculated by each state and local government workers covered by a collective bargaining agreement as a percentage of each total state and local government employments from the Union Membership and Coverage Database by Hirsh and MacPherson (2010). Union coverage has a negative expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition.

With respect to socio-demographic variables, I extracted population, income,

education attainment, elder population, and government type from the literature on fiscal retrenchment. To adjust the skewed distribution of population and per capita income, I used their natural logarithm for the fiscal retrenchment implementation model. The first two measures on the socio-demographic side are population and per capita income. It has been argued that local governments with a higher population and per capita income tend to avoid a higher conflict-oriented fiscal retrenchment composition (Jimenez, 2014; Maher & Deller, 2006; Pammer, 1990). The third measure on the socio-demographic side is education attainment calculated by high school graduates or higher as a percentage of total population 25 years and over. While Simonsen and Robbins (2000) conclude that local governments with a lower level of education attainment tend to avoid cost cut strategies, Jimenez (2014) found that a lower level of education attainment is positively associated with layoffs and targeted cuts. Thus, the expected sign is not clear for this variable. The fourth measure on the socio-demographic side is elder population calculated by total population aged 65 and over as a percentage of total population, which is extracted from the findings that local governments with a higher population of the elderly tend to implement targeted cuts; but they tend to avoid increased property taxes (Jimenez, 2014; Ladd & Wilson, 1982). Elder population has a negative expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition.

Two institutional variables are included in the fiscal retrenchment implementation model. Local governments with a higher level of fiscal limit index prefer to implement a high conflict-oriented fiscal retrenchment composition (Jimenez, 2014). Thus, the first measure on the institution side is a home rule index by Wolman et al. (2010). The home rule index is a factor score of state local autonomy on local debt, property tax rate, revenues, and

expenditures (Wolman et al., 2010). This index incorporates: (1) "Importance of local government outputs, revenue, and expenditure in the state economy and intergovernmental system" and "Importance of local public employment in the state economy and intergovernmental system" in the dimension of local government importance; (2) "Local government structural and functional responsibility, and legal scope," "Tax, spending and debt limits," "Assessment Limits," and "Unconstrained local revenue" in the dimension of local discretion; (3) "Diversity of Local Revenue Sources" in the dimension of local government capacity (Wolman et al., 2010, p. 15). The home rule index has a positive expected sign on the implementation of a higher conflict-oriented fiscal retrenchment composition. The second institutional variable is the restrictiveness of TELs. State governments have constitutions and statutes to impose limits on local governments (Amiel, Deller & Stallmann, 2009). The restrictiveness of TELs is an index ranging from 1 to 27 which is composed of five indicators: (1) the type of TEL, (2) specific restrictions, (3) either statutory or constitutional, (4) override and exemption provisions, and (5) method of override (Amiel et al., 2009). There are mixed findings on the relationship between the adoption of TELs and fiscal health (Ladd & Yinger, 1989; Nelson & Maher, 2014). Thus, the expected sign of TELs adoption on fiscal health is not clear. Lastly, the units of analysis in this study are cities and counties. Thus, I included types of government as one of the control variables for the fiscal retrenchment implementation model. The expected sign is not clear for this variable.

4.3.4 Estimation strategy

The fiscal retrenchment implementation model has an ordinal variable ranging from 1 (low conflict-oriented fiscal retrenchment composition) to 3 (high conflict-oriented fiscal retrenchment composition). Thus, I used Ordered Logistic regression for the fiscal retrenchment dependent variable. The purpose of Ordered Logistic regression is to estimate the odds ratio as representing the probability that independent variables (predictors) produce a particular outcome that is a case as '1' divided by a non-case as '0' (Greene, 2011). While the OLS estimator is based on normally distributed residuals, logistic regression uses maximum likelihood estimation to test whether a particular case appears or not (Stock & Watson, 2007). Thus, the ordered logistic regression model does not need the assumptions of the OLS estimator.

Governments can promote citizen participation to make legitimate public decisions supported by citizens (Handley & Howell-Moroney, 2010; Dalehite, 2008; Irvin & Stansbury, 2004; Arnstein, 1967). It is possible that there is endogeneity on the relationship between citizen participation and fiscal retrenchment. Inconsistent and biased results may be caused by endogeneity (Greene, 2011). To resolve the potential endogeneity problem, I used Two-Stage Least Squares (2SLS) regression with an instrumental variable. In the first stage, an instrumental variable estimates an endogenous variable where the second stage includes the residuals of the first stage (Stock & Watson, 2007). An instrumental variable should be correlated with an endogenous variable; but it should be not related to a dependent variable. Furthermore, there should be at least as many instrumental variables as endogenous variables for 2SLS regression. I used an instrumental variable as representing the respondents' perception on the most important criteria to evaluate the quality of citizens' life, extracting

from the 2009 ICMA survey: "In your opinion, which three of the following factors are the most important criteria used by citizens to evaluate the quality of life in their communities?" The instrumental variable is a dummy value where the respondents answered both "sense of community" and "civic engagement." Jimenez (2014) used this instrumental variable to examine the relationship between citizen participation and fiscal retrenchment implementation. I tested the consistency of results between the two equations in the fiscal retrenchment model. The results of 2SLS regression are shown in the Appendix.

4.4 Fiscal recovery model

The fiscal recovery model is constructed to test the following hypothesis: *Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health.* The fiscal recovery model is composed of seven equations for fiscal health measures. I provided a conceptual model to test the third hypothesis as follows in Figure 3.2.3:

In the diagram, the implementation of fiscal retrenchment strategies plays a crucial

role as a moderation variable to influence fiscal health. Thus, I used the Ordinary Least Squares (OLS) estimator with the analysis of an interaction term between citizen participation and fiscal retrenchment strategy. The number of equations for the fiscal recovery model relies on fiscal health variables as dependent variables. The fiscal recovery model has seven fiscal health variables comprising five objective measures and two fiscal indexes. I also included an ordinal variable of fiscal retrenchment composed of a high, middle, and low conflict-oriented fiscal retrenchment composition. Thus, the fiscal recovery model has seven equations depending on the fiscal health variables. The basic equations are as follows:

$$Fiscal\_recovery_{it} = \beta_0 + \beta_1 Citizen\_involvement_{it} + \beta_2 Fiscal\_retrenchment_{it} + \mathbf{\beta_3 Citizen\_involvement * Fiscal\_retrenchment_{it}} + \beta_4 Fog_{it} + \beta_5 Local\_Autonomy_{it} + \beta_6 TELs\_Index_{it} + \beta_7 Strategic\_planning_{it} + \beta_8 Pop\_size_{it} + \beta_9 Poverty\_family_{it} + \beta_{10} Unemployment\_rate_{it} + \beta_{11} Percapita\_income_{it} + \beta_{12} Political\_conflicts_{it} + \beta_{13} Racial\_diversity_{it} + \beta_{14} 2008\ Fiscal\_health_{it} + \beta_{15} Goverment\_type_{it} + \varepsilon$$

4.4.1 Dependent variables

I used seven fiscal health measures as shown in Table 4.4.1. The fiscal health measures are (1) unassigned fund balance ratio, (2) general fund ratio, (3) net asset ratio, (4) unrestricted net asset ratio, (5) long-term liability ratio, (6) fiscal health index 1 comprising net asset, unrestricted net asset, and long-term liability, and (7) fiscal health index 2 comprising unreserved fund and general fund balance. These variables may not be

appropriate to examine how local governments with a commitment to citizen participation that used a higher conflict-oriented fiscal retrenchment composition are more likely to improve fiscal health than others because they do not reflect 'time frame of fiscal health.' To resolve this concern, the seven measures are transformed into percentage changes in fiscal health between 2009 and 2013, based on CAFR data from these 2 years. According to the 2014 City Fiscal Conditions report (McFarland & Pagano, 2014), the fiscal capacity of municipalities had recovered by the 2013 fiscal year. To maximize the availability of CAFR data, 2013 CAFRs are used to examine fiscal recovery from the Great Recession and post-Great Recession. This study defines fiscal recovery as the difference in fiscal health between 2009 (during the Great Recession) and 2013 (post-Great Recession). Fiscal recovery is a percentage change in fiscal health from 2009 to 2013. It is calculated as follows:

$$Fiscal\ Recovery\ (\%) = Fiscal\ Health\ Ratio_{i2013}(\%) - \ Fiscal\ Health\ Ratio_{i2009}(\%)$$

In the equation, $Fiscal\ Health\ Ratio_{i2013}(\%)$ is an individual fiscal health ratio for city *i* in 2013 (post-Great Recession) and $Fiscal\ Health\ Ratio_{i2009}(\%)$is an individual fiscal health ratio for city *i* in 2009 (during the Great Recession). The higher percentage changes in unassigned fund balance ratio, general fund ratio, net asset ratio, unrestricted net asset ratio, and fiscal health indexes, the more local government recovered their fiscal health; conversely, the higher percentage change in the long-term liability ratio, the less local government recovered their fiscal health.

Table 4.4.1 Variables in the fiscal recovery model

Measurement	Description	Expected Sign	Data Sources
Dependent variables (Percentage change in fiscal health from 2009 to 2013)			
Unassigned fund balance ratio (Budget stability)***	Total Unreserved, undesignated general fund balance / Total general fund expenditures ** (%)	N/A	CAFR
General fund ratio (Budget surplus)	Total general fund revenues / Total general fund expenditures ** (%)	N/A	CAFR
Net asset ratio	Restricted and unrestricted net assets (total net position) / total assets * (%)	N/A	CAFR
Unrestricted net asset ratio	Unrestricted net assets / expenses * (%)	N/A	CAFR
Long-term liability ratio	Long-term liabilities (non-current) / total assets * (%)	N/A	CAFR
Fiscal health index 1	Standardized scores of same fiscal health factors: Net asset, unrestricted net asset, and long-term liability	N/A	CAFR
Fiscal health index 2	Standardized scores of same fiscal health factors: Unreserved fund balance and general fund balance	N/A	CAFR
Independent variables			
Citizen participation	Citizen input involvement (dummy variable, 1: yes, 0: otherwise): "Were citizens involved in decision making related to the fiscal crisis, such as decisions about how to allocate resources?"	+	ICMA
Fiscal retrenchment strategy	The composition of fiscal retrenchment strategies (ordinal variable): Both tax policy and cost-cutting strategy: High conflict-based fiscal retrenchment set coded as 3, Either tax policy and cost-cutting strategy: Middle-conflict-based fiscal retrenchment set coded as 2, No tax policy and cost-cutting strategy: Low-conflict-based fiscal retrenchment strategy coded as 1	+	ICMA
Interaction term	Citizen participation * The composition of fiscal retrenchment strategies (ordinal variable)	+	ICMA
Control variables			
Form of Government	Form of government (dummy variable, 1: the non-elected leader-based form, 0: the elected leader-based form)	+/-	ICMA
Local autonomy	The overall local government autonomy index :Factor scores of state local autonomy on local debt, property tax rate, revenues, and expenditures	+	Wolman et al. (2010)
TELs index	The restrictedness of TELs ranging from 1 to 27	+/-	Amiel et al. (2009).
Strategic planning	The adoption of strategic planning (dummy variable, 1: yes, 0: no): "Does your local government have a strategic and/or long-range plan?"	+	ICMA
Population	Log population in 2013	-	ACS
Family poverty	The percentage of families and people below the poverty level in 2013	-	ACS
Unemployment rate	Unemployment rate in 2013	-	ACS
Per capita income	Log per capita income in 2013	+	ACS
2008 unassigned fund balance ratio (Budget stability)***	Total Unreserved, undesignated general fund balance / Total general fund expenditures ** (%)	+	CAFR
2008 general fund ratio (Budget surplus)	Total general fund revenues / Total general fund expenditures ** (%)	+	CAFR
2008 net asset ratio	Restricted and unrestricted net assets (total net position) /	+	CAFR

	total assets * (%)		
2008 unrestricted net asset ratio	Unrestricted net assets / expenses * (%)	+	CAFR
2008 long-term liability ratio	Long-term liabilities (non-current) / total assets * (%)	-	CAFR
2008 Fiscal health indexes	Standardized scores of same fiscal health factors	+	CAFR
2008 Fiscal health index 1	Standardized scores of same fiscal health factors: Net asset, unrestricted net asset, and long-term liability	+	CAFR
2008 Fiscal health index 2	Standardized scores of same fiscal health factors: Unreserved fund balance and general fund balance	+	CAFR
Political conflicts	"Please indicate on the following scale your opinion of the effectiveness of your council, board, or commission as a decision-making body. Consider the speed and ease with which the members reach consensus, how well they work together, and the degree to which political and personality conflict interfere" (Likert-5-Type Scale, 1: highly effective, 5: not effective)	-	ICMA
Racial diversity	Percentage of non-white population in 2013	-	ACS
Government type	City or County (dummy variable, 1: cities, 0: counties)	+/-	ICMA

*Note: * Government-wide funds, ** General funds, *** I used an reserved fund balance for 2009 and 2008 CAFRs and an unassigned fund balance for 2013 CAFRs due to the change in the GASB No. 54.*

4.4.2 Independent variables

Independent variables are citizen participation involvement, the composition of fiscal retrenchment strategies, and the interaction terms between citizen participation involvement and the composition of fiscal retrenchment strategies. The fiscal recovery model includes the same citizen participation and fiscal retrenchment variables as the fiscal retrenchment implementation model.

The key independent variable is an interaction term between citizen participation and fiscal retrenchment. This interaction term is employed to examine the relationship between citizen participation and fiscal retrenchment strategies. I expect that local governments with a commitment to citizen participation that used a higher fiscal retrenchment composition are more likely to improve fiscal health than others.

4.4.3 Control variables

I extracted control variables from political structures and institutions, economic condition, and political environments (see the details of the control variables in Table 4.4.1). There are four variables on the side of political structures and institutions. The first control variable on the political structure and institution side is form of government. Similar to the citizen participation model, I used the re-classified dummy variable composed of elected leader-based governments (including the council-manager, commission, and elected executive form), and non elected leader-based governments (including the council-manager and administrator form). The literature has provided mixed conclusions on form of government and fiscal health (Booms, 1966; Campbell & Turnbull, 2003; Deno & Mehay, 1987; Morgan & Pelissero, 1980). The expected sign of form of government is not clear.

The second and third control variables on the political structure and institution side are the local autonomy index created by Wolman et. al. (2010) and TELs index used created by Amiel et. al.(2009). The local autonomy index is a factor score of local autonomy on local debt, property tax rate, revenues, and expenditures. Illinois cities with home rule privilege tend to have higher fiscal health than others (Hendrick, 2011). Thus, the expected sign of the local autonomy index is positive on fiscal recovery. The second fiscal institutional variable is the restrictiveness of TELs where state governments have constitutions and statutes to impose limits on local governments (Amiel, Deller & Stallmann, 2009). However, there are mixed findings on the relationship between the adoption of TELs and fiscal health (Ladd & Yinger, 1989; Nelson & Maher, 2014). Thus, the expected sign of the TELs index is not clear.

The fourth control variable on the political structure and institution side is the

adoption of strategic planning extracted from the 2009 ICMA survey:[9] "Does your local government have a strategic and /or long-range plan?" The adoption of strategic planning is a dummy variable coded as '1' for adopted government and '0' otherwise. Shelton and Albee (2000) conclude that the adoption of strategic planning is positively associated with fiscal health at the local level. Later studies have consistently supported this conclusion (Poister & Streib, 2005; Jimenez, 2012). Post-2009 ICMA surveys do not provide information about whether local governments had a strategic plan in 2013. Thus, the fiscal recovery model is not reflected to a change in local strategic planning adoption from 2009 to 2013. This is one of the limitations for the fiscal recovery model. This study has a positive expected sign of strategic planning adoption on fiscal health.

On the side of economic condition, I used population, family poverty, unemployment rate, per capita income, and 2008 fiscal health variables. To reflect a fiscal recovery period, I used 2013 data for population, family poverty, unemployment rate, per capita income on the side of economic condition. The first control variable on the economic condition side is population. A higher level of population deteriorates fiscal health of local governments due to increased spending needs of public infrastructure (Fox & Sullivan, 1978). Thus, population has a negative expected sign on fiscal health. The second control variable on the economic condition side is family poverty. Jargowsky (2003) argues that a large portion of low income people may threaten local fiscal health. Thus, family poverty growth has a negative expected sign on fiscal health. The third and fourth control variables on the economic condition side are unemployment rate and per capita income. The literature concludes that high

[9] The control variable of strategic planning adoption is extracted from the 2009 ICMA survey. Thus, this study does not know whether local governments had a strategic plan in 2013. This is one of the limitations for the fiscal recovery model.

unemployment rate and low per capita income have negative effects on fiscal health (Jargowsky, 2003; Ladd & Yinger, 1989). While per capita income has a positive expected sign on fiscal health, population growth and unemployment rate have negative expected signs on fiscal health. To adjust the skewed distribution of population and per capita income variables, I used their natural logarithm for the fiscal recovery model. Previous fiscal conditions can influence future fiscal health (Jacob & Hendrick, 2012). Thus, I employed 2008 fiscal health measues used in the model, which are (1) unassigned fund balance ratio, (2) general fund ratio, (3) net asset ratio, (4) unrestricted net asset ratio, (5) long-term liability ratio, (6) fiscal health index 1 comprising net asset, unrestricted net asset, and long-term liability, and (7) fiscal health index 2 comprising unreserved fund and general fund balance. To resolve a multicollinearity problem, this study adopts a stepwise model where the seven equations each include one same fiscal health variable as a dependent variable. For example, I included the 2008 unreserved fund balance variable, as a control variable, in the fiscal recovery model of the unreserved fund balance. The unassigned fund balance, general fund, net asset, and unrestricted net asset ratio, and fiscal health indexes have positive expected signs on fiscal recovery; reversely, the long-term liability ratio has a negative expected sign on fiscal recovery.

On the side of political environments, I employed political conflicts and racial diversity. The first control variable on the political environment side is political conflicts. Sanchez et al. (2012) conclude that the left party and politically fragmented governments are negatively associated with fiscal health by generating political conflicts. Most local governments have non-partisan elections; so it is not possible to construct a variable based on political parties. Instead, in Table 4.2.2., the 2009 ICMA survey provides a question about

council relations to capture political conflicts in the citizen participation model. The political conflict variable is a Likert scale ranging from '1' as "high effective" to '5' "not effective." The expected sign of political conflicts is negative relative to fiscal health.

The second control variable on the political environment side is community diversity as a percentage of non-white population. Marlowe and Portillo (2006) argue that governments may use citizen participation to resolve political conflicts from racial diversity. I used racial diversity as a driving force behind political conflicts. Racial diversity has a negative expected sign on fiscal health. Lastly, the units of analysis in this study are cities and counties. Thus, this study includes type of government as one of the control variables for the fiscal recovery model. Little research has examined the relationship between legal base and fiscal health. Thus, the expected sign for the types of government variable is not clear.

4.4.4 Estimation strategy

Using moderated regression, I tested the fiscal recovery model. However, moderated regression has a concern about the multicollinearity between the main independent variables and interaction variables. To resolve the multicollinearity problem, I used the mean-centered fiscal retrenchment variables recommended by various studies (Brambor, Clark & Golder, 2006; Jaccard & Turrisi, 2003).

Moderated regression is considered for the OLS estimator of coefficients. Thus, the below assumptions should be addressed in the fiscal recovery model. First, the sample has a normal distribution that given X values are not correlated to an error term as representing

omitted factors. Second, citizen participation, fiscal retrenchment, and fiscal health across local governments are independently and identically distributed (i.i.d.). To satisfy i.i.d., survey data is randomly selected from a single large population. Third, there are no outliers that may produce biased estimation. To satisfy these assumptions, I transformed population and per capita income into natural logarithms for normality and employ robust regression to adjust for heteroskedascity.

Moderated regression has three decision rules (Cohen, Cohen, West, & Aiken, 2013; Wu, 2011). First, the interaction between citizen participation and fiscal retrenchment is an enhancing effect on fiscal recovery if citizen participation and fiscal retrenchment have a positive effect on fiscal recovery, and the interaction term has a positive effect on fiscal recovery, or vice versa. Second, the interaction between citizen participation and fiscal retrenchment is a buffering effect on fiscal recovery if citizen participation has a negative effect on fiscal recovery, whereas fiscal retrenchment and the interaction term have a positive effect on fiscal recovery. The interaction between citizen participation and fiscal retrenchment has an antagonistic effect if citizen participation and fiscal retrenchment have positive effects on fiscal recovery, whereas the interaction term has a negative effect on fiscal recovery.

4.5 Limitations

4.5.1 Citizen participation model

This study has concerns about several limitations on the citizen participation model.

First, this study does not consider various citizen participation measures. There is an open-ended question to capture citizen participation mechanisms. However, only 332 respondents provided information about citizen participation mechanisms among 1,448 respondents who answered 'yes' for citizen participation involvement in the budget process. These missing values may generate biased results about the relationship between fiscal stress and the use of citizen participation. Also, the citizen survey variable does not represent participatory budgeting but general citizen participation. Thus, this study focuses primarily on whether local governments merged citizen input into their budgetary decision making. Second, some local governments did not post their CAFRs on the website. Missing values from these local governments may produce biased results. Third, there is a response bias in the 2009 ICMA survey data. Responses to the survey questions may vary depending on respondents' education level, position, job experience, age, race, and gender. Fourth, the results of the citizen participation model are limited to the period of the Great Recession. The 2012 ICMA survey does not provide citizen participation questions aligned with the 2009 ICMA survey. Thus, the results of the citizen participation model do not reflect what may have happened later. Lastly, the citizen participation variable cannot fully represent all processes of citizen participation. Although this study introduced Arnstein's eight citizen participation processes to define the purpose of citizen participation, the employed citizen participation variable does not fully reflect Arnstein's eight citizen participation processes.

4.5.2 Fiscal retrenchment implementation model

There are some limitations in the fiscal retrenchment implementation model. First,

the fiscal retrenchment implementation model does not reflect 'time frame.' I tested this model with cross-sectional data during the Great Recession but not longitudinal data. The 2012 ICMA survey does not provide information about the implementation of fiscal retrenchment. Thus, the results of the fiscal retrenchment implementation model may not be applicable to the period of post-Great Recession and fiscal recovery. Second, the citizen participation variable does not capture all stages of the budget process. There is no information about citizen engagement in individual budget stages in the 2009 ICMA survey. Although the literature argues the effect of participatory budgeting may differ depending on individual budget stages, this study does not reflect this argument in measuring citizen participation in the budget process. Thus, the results of the fiscal retrenchment implementation model may produce biased results. Third, fiscal retrenchment variables do not fully capture individual fiscal retrenchment tactics. Thus, the results of the fiscal retrenchment implementation model do not show how citizen participation in the budget process affects the implementation of individual fiscal retrenchment tactics. Fourth, the union coverage variable does not include local government workers only but state and local government workers. Thus, this control variable may partially capture interest group conflicts in implementing fiscal retrenchment strategies. Lastly, the 2008 fiscal health control variables may not fully represent the financial condition of the Great Recession in implementing fiscal retrenchment strategies. Although these control variables can resolve the endogeneity on the relationship between fiscal health and fiscal retrenchment, the results of the fiscal retrenchment implementation model may be biased.

4.5.3 Fiscal recovery model

Some limitations should be addressed in the fiscal recovery model. First, I used the difference of fiscal health between the Great Recession and post-Great Recession from 2009 and 2013 CAFRs. Local government CAFRs based on GASB standards have twenty-two changes from 2007 to 2013. Thus, fiscal health measured by assets and liabilities, and unassigned fund balance may be over-estimated in 2009. Second, the 2009 ICMA survey does not provide information about the implementation of fiscal retrenchment strategies from 2010 to 2013. Although it seems that the implementation of fiscal retrenchment strategies in the ICMA survey is not different from the trend of fiscal retrenchment implementation in National League of Cities surveys from 2008 to 2014, this study has a limitation that the results do not reflect the actual trend of fiscal retrenchment implementation in the post-Great Recession. On the continuum of this limitation, third, the ICMA survey does not provide information about the adoption of strategic planning in 2013, one of the control variables for the fiscal recovery model. Fourth, this study does not include some possible control variables such as urban sprawl, consolidated cities, local governments with an internal financial audit system, and political fragmentation due to the availability of data. Sixth, this study does not fully consider other possible ways to measure fiscal health and recovery. Lastly, the fiscal retrenchment measures do not reflect variations in the effects of individual fiscal retrenchment tactics on fiscal recovery.

Despite these limitations, this study has important contributions to public budgeting and finance, and urban management fields. First, this study demonstrates a democratic fiscal decision making system where financial management is not limited to the territory of professional public officials but extended to citizens. In this regard, the democratic fiscal

decision making system would be one of the important 'new normal' financial management ways since the Great Recession. Second, this study provides a theoretical background for the practical benefits of citizen participation by testing the effects of participatory budgeting and fiscal retrenchment on fiscal recovery. Third, this study offers evidence on the motivation of citizen participation by examining the relationship between fiscal stress and citizen participation. Lastly, this study has a theoretical contribution to literature on fiscal retrenchment by suggesting the implementation of fiscal retrenchment strategies may vary depending on citizen participation as one of the political environments; furthermore, this variation may produce different fiscal outputs and outcomes.

4.6 Summary

This chapter is organized in the following five sections: (1) data and samples, (2) citizen participation model, (3) fiscal retrenchment implementation model, (4) fiscal recovery model, and (5) limitations. The first section explained data and samples. I used the 2009 ICMA survey for citizen participation, fiscal retrenchment, and control variables including political conflicts, form of government, and the adoption of strategic planning. In another data, 2009 and 2013 CAFRs are used to capture fiscal recovery variables. Lastly, I used 2009 ACS data for socioeconomic factors as fiscal stress and control variables. To test the hypotheses, I merged 2009 and 2013 CAFRs, and 2009 and 2013 ACS data into the 2009 ICMA survey.

The second section introduces the citizen participation model for the first hypothesis: *Local governments with greater fiscal stress during the Great Recession were more likely to*

use citizen participation as a communication channel. The citizen participation model has the seven equations that differ depending on the types of fiscal health variables. The independent variables are composed of five objective fiscal health measures and one subjective measure, and two fiscal indexes. The citizen participation model has nine control variables: (1) form of government, (2) code of ethics, (3) moralistic governments, (4) traditionalistic governments, (5) racial diversity, (6) political conflicts, (7) population, (8) income, and (9) government type. The estimation strategy of the citizen participation model is Logistic Regression.

The third section introduces the fiscal retrenchment implementation model for the second hypothesis: *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies.* The fiscal retrenchment implementation model has two equations depending on the use of statistical methods. The key independent variable is citizen participation involvement. There are nineteen control variables for the fiscal retrenchment implementation model: (1) unassigned fund balance, (2) general fund ratio, (3) unrestricted net asset, (4) long-term liability, (5) net asset, (6) the perception of the Great Recession, (7) intergovernmental revenues, (8) form of government, (9) code of ethics, (10) racial diversity, (11) political conflicts, (12) union coverage, (13) population, (14) income, (15) education attainment, (16) elder population, (17) local autonomy index, (18) TELs index, and (19) government type. The main estimation strategy is Ordered Logistic regression. Additionally I used 2SLS regression for potential endogeneity for the relationship between citizen participation and fiscal retrenchment.

The fourth section introduces the fiscal recovery model for the third hypothesis: *Local governments with a commitment to citizen participation that used a higher conflict-*

oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health. The fiscal recovery model has seven equations from six fiscal health variables comprising unassigned fund balance ratio, general fund ratio, net asset ratio, unrestricted net asset ratio, long-term liability ratio, and two fiscal health indexes, and fiscal retrenchment variable. The key independent variable in the fiscal recovery model is an interaction term between citizen participation involvement and fiscal retrenchment composition. For the fiscal recovery model, I extracted eleven control variables from the literature: (1) form of government, (2) local autonomy index, (3) TELs index (4) the adoption of strategic planning, (5) population, (6) family poverty, (7) unemployment rate, (8) per capita income growth, (9) 2008 unassigned fund balance, (10) 2008 general fund ratio, (11) 2008 unrestricted net asset, (12) 2008 long-term liability, (13) 2008 net asset, (14) fiscal health index 1 comprising net asset, unrestricted net asset, and long-term liability, (15) fiscal health index 2 comprising unreserved fund and general fund balance, (16) political conflicts, (17) racial diversity, and (18) government type. The estimation strategy of the fiscal recovery model is moderated regression with the OLS estimator of coefficients.

Several limitations are addressed in the last section. The citizen participation model has limitations about citizen participation measures, a selection-bias, missing values for CAFRs, a response-bias, the time limitation of the results, and representativeness of citizen participation. The fiscal retrenchment implementation model has limitations about the time frame of fiscal retrenchment implementation, and citizen participation, fiscal retrenchment, and union coverage measures. The fiscal recovery model has limitations about changes in GASB standards for CAFRs, the trend of fiscal retrenchment implementation in the post-Great Recession, the adoption of strategic planning in 2013, possible control variables and

possible ways to measure fiscal health, and variations in the effects of individual fiscal retrenchment tactics on fiscal recovery. Despite these limitations, this is an important study that demonstrates a democratic fiscal decision making system, practical benefits of citizen participation, the motivation of citizen participation, and the role of citizen participation for the implementation of fiscal retrenchment strategies at the local level in public budgeting and finance, and urban management fields.

Chapter 5: Findings

This chapter discusses descriptive statistics, estimation results, and the interpretation of the results for the following models: (1) citizen participation model, (2) fiscal retrenchment implementation model, and (3) fiscal recovery model. The mean, standard deviations, and minimum and maximum values are addressed in each section. The correlation matrix of the models shows the correlation among employed variables. The results of hypothesis testing are used to judge whether the findings support the hypotheses.

5.1 Citizen participation model

The logistic regression model was employed to test the following hypothesis: "*Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel."* I used seven equations that each include different financial condition variables in the citizen participation model: (1) unreserved fund balance, (2) general fund balance, (3) net assets, (4) unrestricted net assets, (5) long-term liability, (6) Fiscal Health Index 1 comprising the net asset ratio, unrestricted net asset ratio, and long-term liability ratio, and (7) Fiscal Health Index 2 comprising the unreserved fund balance and general fund balance.

5.1.1 Descriptive statistics

The descriptive statistics are shown in Table 5.1.1. The average of citizen participation, the dependent variable, is 0.281, meaning that the sampled local governments

mostly had the fiscal decision making process without citizen participation during the Great Recession. The average of the unreserved fund balance ratio is 32.8% of the total general expenditures. The sampled local governments could use the unreserved funds to cover budget deficits in the amount of 32.8% of the total general expenditures. Table 5.1.1 shows that the average of the general fund balance ratio is 1.038. The sampled local governments had budget surpluses in the amount of 3.8% of the total expenditures in 2009. The average of the unrestricted net asset ratio is 45.4% of the total expenses. The sampled local governments could cope with future fiscal stress in the amount of 45.4% of the total expenses. Also, they had restricted and unrestricted funds in the amount of 18% of the total assets on average for coping with future fiscal stress. The average of the long-term liability ratio is 26.8% of the total assets. Long-term liabilities are 26.89% of total assets.

Table 5.1.1 Descriptive results in the citizen participation model

Variables	Observation	Mean	SDV	Min	Max
Citizen Participation	1448	.281	.450	0	1
Unreserved Fund Balance	1221	.328	.423	-.486	7.852
General Fund Balance	1221	1.038	.334	.099	5.586
Unrestricted net assets	1204	.454	.514	-2.967	5.975
Net assets	1169	.180	.162	-1.514	1
Long-term Liability	1169	.268	.183	0	2.095
Fiscal Health Index 1	1149	.000	.999	-8.031	13.261
Fiscal Health Index 2	1149	.000	.999	-2.551	14.802
The Great Recession Effect	1542	3.304	.861	1	5
Non-elected Form	1613	.669	.470	0	1
Code of Ethics	1495	.282	.450	0	1
Moralistic Political Culture	1613	.377	.484	0	1
Traditionalistic Political Culture	1613	.264	.440	0	1
Racial Diversity	1612	19.551	16.936	0	84.9
Political Conflict	1539	2.185	1.086	1	5
Population	1612	54290	172175	418	3796840
Income	1612	25243	10087	7493	104382
Government Type	1613	.821	.383	0	1

Two fiscal health indexes were developed by factor analysis. Three stages were needed to create the fiscal health indexes. First, the variable of the long-term liability ratio should be consistent with other fiscal health measures (Wang, Dennis, and Tu, 2007). Thus, the values of the long-term liability were reversed. Second, I aggregated the same factors of the objective fiscal health measures by factor analysis. Third, the same factors were calculated to create a fiscal heath index with standardized scores (Wang, Dennis, and Tu, 2007). Table 5.1.2 shows the factor loadings of the 2009 fiscal health variables with Varimax rotation. Fiscal Health Index 1 is composed of net assets, unrestricted net assets, and long-term liabilities with values ranging from -8.031 to 13.261 as shown in Table 5.1.1. Fiscal Health Index 2 is composed of unreserved fund balance and general fund balance with values ranging from -2.551 to 14.802 as shown in Table 5.1.1. Because the fiscal health indexes are standardized scores, the average of the fiscal health indexes is 0. For subjective fiscal health variable, the average of the Great Recession effect is 3.304. The respondents subjectively thought that their governments were struggling moderately or greater with fiscal stress during the Great Recession based on a 5-point Likert scale, with 5 equal to severe effects.

Table 5.1.2 Factor loadings of fiscal health indexes with Varimax rotation for the 2009 fiscal health measures

Variables	Component	
	Fiscal Health Index 1	Fiscal Health Index 2
Net assets,	.700	
Unrestricted net assets	.699	
Long-term liabilities	.543	
Unreserved fund balance		.787
General fund balance		.779

Among the control variables, the average of the non-elected form is 0.669, meaning that these are more local governments with a non-elected leader are more than others in the sample. On the average of code of ethics (0.282), most of the sampled local governments did not adopt a code of ethics. The average of moralistic political culture is 0.377, while the average of traditionalistic political culture is 0.264. The average of racial diversity is 19.55%, meaning that most sampled local governments are white population-oriented communities. The average political conflict is 2.185; based on a 5-point Likert scale, with 5 equal to not effective, the respondents generally thought that their council, board, and commission, as a decision-making body work together effectively or greater. The average population is 54,290. The average per capita income is $25,243. The income level of the sampled local governments is lower than the U.S. ($27,334). On the average of government type (0.821), most sampled local governments are cities.

I checked the correlation among the employed variables prior to regression analysis. The correlation matrix of the variables is shown in Table 5.1.3. Fiscal Health Index 1 has a correlation with the unrestricted net asset ratio (0.721), net asset ratio (0.662), and long-term liability ratio (-0.464). Also, Fiscal Health Index 2 has a high correlation with the unreserved fund balance ratio (0.755) and general fund balance ratio (0.750). Although these are correlation coefficients with an absolute value greater than 0.5, the model does not have a correlation problem because none of these variables are in the same equation.

Table 5.1.3 The correlation matrix of the citizen participation model

	Variables	1	2	3	4	5	6	7	8	9	10
1	Citizen Participation	1.000									
2	Unreserved Fund Balance	-0.017	1.000								
3	General Fund Balance	0.000	0.420	1.000							
4	Unrestricted Net Assets	-0.019	0.305	0.056	1.000						
5	Net assets	-0.005	0.257	0.006	0.637	1.000					
6	Long-term Liability	0.008	-0.154	-0.040	-0.477	-0.517	1.000				
7	Fiscal Health Index 1	-0.015	0.215	-0.142	0.721	0.662	-0.464	1.000			
8	Fiscal Health Index 2	-0.012	0.755	0.750	0.232	0.129	-0.097	-0.004	1.000		
9	The Great Recession Effect	0.154	-0.129	0.022	-0.078	-0.035	0.051	-0.071	-0.057	1.000	
10	Non-elected Form	0.098	-0.015	-0.036	0.035	0.077	-0.055	0.044	-0.024	0.048	1.000
11	Code of Ethics	-0.045	0.014	0.041	0.073	0.065	-0.034	0.067	0.041	-0.036	0.064
12	Moralistic Political Culture	-0.045	0.007	0.113	0.063	0.085	-0.064	0.043	0.059	-0.061	-0.146
13	Traditionalistic Political Culture	0.104	-0.018	-0.034	0.102	0.013	-0.122	0.065	-0.006	0.140	0.081
14	Racial Diversity	0.019	-0.070	-0.078	-0.148	-0.060	0.072	-0.087	-0.077	0.138	0.082
15	Political Conflict	0.003	-0.011	0.029	-0.015	-0.002	-0.025	0.000	0.028	0.015	-0.034
16	Population	0.064	-0.100	0.007	-0.118	-0.123	0.098	-0.104	-0.050	0.162	0.041
17	Income	0.101	0.077	0.118	0.102	-0.006	-0.086	0.077	0.060	-0.076	0.126
18	Government Type	-0.023	0.052	-0.046	0.154	0.027	-0.020	0.091	0.039	-0.103	-0.096

	Variables	11	12	13	14	15	16	17	18
11	Code of Ethics	1.000							
12	Moralistic Political Culture	0.072	1.000						
13	Traditionalistic Political Culture	0.006	-0.469	1.000					
14	Racial Diversity	-0.089	-0.385	0.074	1.000				
15	Political Conflict	0.018	0.060	-0.018	-0.005	1.000			
16	Population	-0.034	-0.108	0.092	0.186	0.004	1.000		
17	Income	0.026	-0.003	0.070	-0.142	0.012	0.048	1.000	
18	Government Type	0.022	0.093	0.036	0.016	-0.111	-0.251	0.054	1.000

5.1.2 Estimation results

I tested whether the model satisfies several statistical concerns. Based on the Variance Inflated Factors (VIF = 1.17 – 1.30), the equations of the citizen participation model do not have any serious issues with multicollinearity. Approximately 75% of the sampled local governments have a fiscal year from July 1 to June 30, whereas the 2009 ICMA survey was distributed to local governments from May 1 to July 31. Thus, there seems to be little concern of endogeneity in the relationship between fiscal stress and citizen participation.

Table 5.1.4 Estimation results in the citizen participation model

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Unreserved Fund Balance	-.317** (.159)						-.064 (.160)
General Fund Balance		.031 (.166)					.110 (.180)
Unrestricted Net Assets			-.192** (.095)				-.282 (.153)
Net Assets				-.615* (.359)			-.245* (.448)
Long-term Liability					.545** (.268)		.631** (.318)
Fiscal Health Index 1						-.121** (.061)	
Fiscal Health Index 2						.045 (.046)	
The Great Recession Effect	.242** (.053)	.248** (.053)	.240*** (.052)	.230*** (.053)	.223*** (.053)	.256*** (.055)	.221*** (.056)
Non-elected Form	.260** (.101)	.262** (.101)	.269** (.101)	.259** (.102)	.256** (.101)	231** (.104)	.248** (.107)
Code of Ethics	.144 (.094)	.148 (.094)	.163* (.094)	.136 (.095)	.140 (.095)	.123 (.099)	.113 (.100)
Moralistic Political Culture	.080 (.110)	.089 (.111)	.048 (.111)	.073 (.112)	.075 (.113)	.045 (.115)	.117 (.120)
Traditionalistic Political Culture	.262** (.108)	.271** (.108)	.258** (.108)	.242** (.107)	.263** (.109)	.191* (.110)	.316** (.116)
Racial Diversity	-.000 (.002)	.000 (.002)	.000 (.002)	.000 (.002)	-.000 (.002)	-.000 (.003)	.001 (.003)
Political Conflict	.012 (.039)	.014 (.039)	.006 (.039)	.004 (.039)	.002 (.039)	-.000 (.040)	-.000 (.041)
Population	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)
Income	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)
Government Type	.031 (.118)	.015 (.118)	-.005 (.302)	-.041 (.310)	-.037 (.118)	.023 (.124)	-.061 (.132)
Constant	-1.524 (.472)	-1.909 (.334)	-1.666 (.302)	-1.574 (.310)	-1.827 (.312)	-1.747 (.313)	-1.729 (.376)
Wald chi^2	58.59	56.14	55.33	47.87	50.96	52.59	75.85
Log Likelihood	-593.908	-595.877	-600.424	-588.524	-593.784	-562.813	-539.783
Pseudo R^2	0.051	0.048	0.048	0.044	0.043	0.049	0.071
N	1012	1012	1020	987	1001	929	901

Note: Dependent variable – Citizen participation
Fiscal health index 1: Net asset, unrestricted net asset, and long-term liability
Fiscal health index 2: Unreserved fund balance and general fund balance
** p < 10, ** p < 05, *** p < 01*

Table 5.1.4 shows the logistic regression results for the relationship between fiscal stress and citizen participation. The actual number of the sample varies depending on missing variables that resulted in the sample ranging from 901 (Model 7) to 1,020 (Model 3). The models are statistically significant at the 99 percent confidence level ($\chi^2 = 48.87 – 75.85$). Pseudo R^2 ranges from 0.043 (Model 5) to 0.071 (Model 7). It should be noted that the citizen participation model has somewhat low Pseudo R^2. Because of limited research about the determinants of citizen participation in the budget process, I employed some control variables, such as code of ethics and racial diversity, from the literature on general citizen participation (Lawton & Macaulay, 2014; Marlowe & Portillo, 2006). These control variables may not be appropriate to examine the determinants of participatory budgeting. Furthermore, some control variables, such as the standards of democratic governance and organizational culture, are not included in the citizen participation model. Thus, there are likely some missing variables that I could not include in the citizen participation model, which would account for somewhat low Pseudo R^2.

Seven equations were included for the citizen participation model. The first five equations encompass the unassigned fund balance, general fund balance, unrestricted net asset ratio, long-term liability ratio, and net asset ratio, respectively. The sixth equation includes the two fiscal health indexes. All objective fiscal health variables were included in the seventh model.

Models 1 and 2 are about general fund-based fiscal health variables. In Model 1, I expected unreserved fund balance to have a negative relation to citizen participation. The finding shows that the unreserved fund balance ratio has a significantly negative effect on citizen participation, as expected. Local governments with a lower level of unreserved fund

balance were more likely to use citizen participation during the Great Recession. The general fund balance has a positive expected sign on citizen participation. In Model 2, the results offer a finding that the general fund balance is positively associated with citizen participation, but this relationship is not significant. The general fund balance calculated by total general revenues as a percentage of total general expenditures may not be appropriate to measure fiscal stress because local governments can make budget surpluses by using other financing sources such as reserve funds. This may be a reason for the insignificant relationship between the general fund balance and citizen participation.

Models 3, 4, and 5 are about government wide fund-based fiscal health indicators including the unrestricted net asset ratio, net asset ratio, and long-term liability ratio. In Model 3, the expected sign of the unrestricted net asset ratio is negative on citizen participation. As expected, the unrestricted net asset ratio has a significantly negative effect on citizen participation in Model 3. I expected the net asset ratio to have a negative relation to citizen participation. The net asset ratio has a significantly negative effect on citizen participation in Model 4. The long-term liability ratio has a positive expected sign on citizen participation. The finding shows the long-term liability ratio has a significantly positive effect on citizen participation, as expected. The results mean that local governments were more likely to use citizen participation when having greater fiscal stress from a lower unrestricted net asset ratio and total net asset ratio, and higher long-term liability.

I employed two fiscal indexes for Model 6, and expected these two fiscal indexes to have negative expected signs on citizen participation. Fiscal Health Index 1 has a significantly negative effect on citizen participation, as expected. Contradictory to this result, Fiscal Health Index 2 has a positive effect on citizen participation, but this relationship is not

significant. Fiscal health index 2 includes the general fund balance that may be inappropriate to represent fiscal stress as mentioned above. This may be a reason why Fiscal health index 2 has an insignificant positive relation to citizen participation.

Model 7 is a full equation including the five objective fiscal health indicators. I expected them to have a negative association with citizen participation, except for the long-term liability ratio which has a positive expected sign on citizen participation. The finding shows that the net asset ratio has a significantly negative effect on citizen participation; but, this significant negative effect is reversed in the independent variable of the long-term liability ratio, as expected. The general fund balance has a positive association with citizen participation, but this association is not significant. There is a negative relationship between the unreserved fund balance and unrestricted net asset ratio, and citizen participation. The unreserved fund balance and unrestricted net asset ratio are no longer significant on citizen participation in Model 7. Local governments may be more likely to consider the net asset ratio and long-term liability among the five fiscal health indicators in an attempt to use citizen participation in the budgeting process. This may be a reason why the unreserved fund balance and unrestricted net asset ratio are not significant on citizen participation.

The expected sign of the Great Recession, a subjective fiscal health variable, is positive on citizen participation. The Great Recession effect has a significantly positive association with citizen participation in all equations, as expected. Most survey respondents are mayors, city managers, chief administrative officers (CAO), and finance directors engaged in the local fiscal decision making process. Local governments with fiscal decision makers that felt greater fiscal stress were more likely to use citizen participation than others.

This means that fiscal decision makers' perceptions of fiscal stress also play a crucial role in using citizen participation at the local level.

The results show that, the unreserved fund balance, unrestricted net asset ratio, net asset ratio, long-term liability ratio, and Fiscal Health Index 1 have significantly negative relations to citizen participation, as expected. However, the general fund ratio and Fiscal Health Index 2 are not significant on citizen participation. In Model 7, the net asset ratio is significantly negative on citizen participation; furthermore, the long-term liability ratio has a significantly positive effect on citizen participation, as expected. However, the unreserved fund balance, general fund balance, and unrestricted net asset ratio are not significant on citizen participation. Although most results support the first hypothesis that "*Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel,"* some fiscal health variables are not significant on citizen participation. Based on the findings, the first hypothesis is partially supported.

Among the control variables, I expected the non elected leader form to have a positive relation to citizen participation in the budget process. The non elected leader form has a significant positive effect on citizen participation in all equations, as expected. The literature shows mixed conclusions on the relationship between form of government and citizen participation in the budget process (Franklin & Ebdon, 2005; Koontz, 1999; Morgan, England, & Pelissero, 2007; Yang & Callahan, 2007; Zhang & Liao, 2011). The finding shows that local governments with a non-elected leader are more likely to use citizen participation in the budget process than others.

Lawton and Macaulay (2014) argue that governments should make a transparent decision making process to merge citizen input into government decisions. A code of ethics encourages local governments to share information about policy and fiscal decisions (Berman, West, & Cava, 1994). Thus, I expected code of ethics to have a positive association with citizen participation. The finding shows that code of ethics has a significantly positive effect on citizen participation in Model 3, as expected. However, this relationship is not significant in 6 of the models. The finding indicates that a code of ethics did not matter to local governments to use citizen participation during the Great Recession in general.

Northern local governments with moralistic political culture have a positive expected sign on citizen participation; conversely, there is a negative expected relationship between southern local governments with traditionalistic political culture and citizen participation. The political culture variables offer the opposite results to Ebdon's conclusion (2000). Moralistic political culture has a positive relation to citizen participation in the models, but this relationship is not significant. Traditionalistic political culture is significantly positive on citizen participation. This means that southern local governments with traditionalistic political culture were more likely to use citizen participation than local governments in the middle sector of the region with individualistic political culture. Each state was coded with one political culture, but many actually include more than one political culture. In Elazar's model (1994), there are many states with mixed political culture (including Washington, Idaho, Montana, Wyoming, North and South Dakota, Nebraska, Iowa, Kansas, Missouri, Texas, New Mexico, Arizona, Oklahoma, Kentucky, and West Virginia). These states may not fully represent only one political characteristic. This may be a reason why the results are contradictory to Ebdon's conclusion (2000).

Marlowe and Portillo (2006) conclude that governments with greater community diversity tend to use participatory budgeting to resolve political conflicts from diversified residents. In this regard, community diversity and political conflicts may be the determinants of participatory budgeting. Based on this argument, I expected racial diversity to have a positive effect on citizen participation in the budget process. Racial diversity has a negative relation to citizen participation in Models 1, 5, and 6; reversely, it is positively associated with citizen participation in Models 2, 3, 4, and 7. However, these relationships are not significant. The findings indicate that local governments may not use citizen participation as an instrument to resolve conflicts from racial diversity in the budget process.

Political conflict has a positive expected sign on citizen participation in the budget process. The findings show that political conflict is positively associated with citizen participation in the models, but this association is not significant. Similar to racial diversity, citizen participation may not matter to local governments to resolve conflicts between the council, board, and commission as a decision-making body.

With respect to demographic variables, population has an expected positive sign on citizen participation because larger cities tend to implement citizen participation in performance budgeting (Yang & Callahan, 2007). The findings show that population has a positive relation to citizen participation in the models, but this relationship is not significant. Yang and Callahan's conclusion (2007) is limited to performance budgeting for the relationship between population and citizen participation. Thus, the findings indicate that population may not play a crucial role in helping local governments to use citizen participation in the general budget process.

I expected a higher income level to have a positive association with citizen participation in the budget process. The income variable has a significantly positive effect on citizen participation in the models, as expected. This result supports the conclusion that public officials tend to perceive that citizen participation is useful for communities that have a higher level of income (Marlowe & Portillo, 2005).

The expected sign of government type is not clear. The findings show that cities are more likely to use citizen participation than counties in Models 1, 2, and 6, but this relationship is reversed in Models 3, 4, 5, and 7. Also, government type is not significant on citizen participation in the models. The results indicate that government type may not matter to local governments to use citizen participation in the budget process.

I estimated the marginal effects of the coefficients to test the relative effects of the variables on citizen participation as shown in 5.1.5. The magnitude of the unreserved fund balance ratio, net asset ratio, and long-term liability ratio are stronger than other variables in Models 1, 4 and 5. Furthermore, Model 7 shows that the magnitude of the long-term liability ratio is stronger than other variables. Consequently, in the marginal effect models, fiscal stress plays a crucial role in encouraging local governments to use citizen participation.

Table 5.1.5 The marginal effects of the estimation results in the citizen participation model

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Unreserved Fund Balance	-.105** (.052)						-.022 (.054)
General Fund Balance		.010 (.055)					.037 (.061)
Unrestricted Fund Balance			-.064** (.031)				-.096 (.052)
Net asset				-.209* (.120)			-.083* (.152)
Long-term Liability					.183** (.089)		.215** (.108)
Fiscal Index 1						-.042** (.021)	
Fiscal Index 2						.015 (.016)	
The Great Recession Effect	.080** (.017)	.083** (.017)	.080*** (.017)	.078*** (.017)	.075*** (.017)	.088*** (.018)	.075*** (.018)
Non-elected Form	.086** (.033)	.087** (.033)	.090** (.033)	.088** (.034)	.086** (.034)	.080** (.035)	.084** (.036)
Code of Ethics	.048 (.031)	.049 (.031)	.054* (.031)	.046 (.032)	.047 (.031)	.042 (.034)	.038 (.034)
Moralistic Political Culture	.026 (.036)	.029 (.037)	.016 (.037)	.024 (.038)	.025 (.038)	.015 (.039)	.039 (.041)
Traditionalistic Political Culture	.087** (.035)	.090** (.035)	.086** (.035)	.082** (.036)	.088** (.036)	.066* (.037)	.108** (.039)
Racial Diversity	-.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	-.000 (.000)	-.000 (.001)	.000 (.001)
Political Conflict	.004 (.013)	.004 (.013)	.002 (.013)	.001 (.013)	.001 (.013)	-.000 (.014)	-.000 (.014)
Population	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)
Income	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)	.000** (.000)
Government Type	.031 (.039)	.005 (.039)	-.001 (.039)	-.014 (.040)	-.012 (.039)	.008 (.042)	-.020 (.045)
Wald chi^2	58.59	56.14	55.33	47.87	50.96	52.59	75.85
Log Likelihood	-593.908	-595.877	-600.424	-588.524	-593.784	-562.813	-539.783
Pseudo R^2	0.051	0.048	0.048	0.044	0.043	0.049	0.071
N	1012	1012	1020	987	1001	929	901

Note: Dependent variable – Citizen involvement
Fiscal index 1: Net asset, unrestricted net asset, and long-term liability
Fiscal index 2: Unreserved fund balance and general fund balance
** p < 10, ** p < 05, *** p < 01*

5.2 Fiscal retrenchment implementation model

The ordered logit regression model was employed to test the following hypothesis in the fiscal retrenchment implementation model: "*Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies."* I used one equation for the fiscal retrenchment implementation model. The dependent variable is a categorical variable composed of high, middle, and conflict-oriented fiscal retrenchment composition. The independent variable is citizen participation involvement as to whether citizens were included in fiscal decision making during the Great Recession.

5.2.1 Descriptive statistics

The descriptive results of the fiscal retrenchment implementation model are shown in Table 5.2.1. The average of the composition of fiscal retrenchment strategies, the dependent variable, is 1.896. A high conflict-oriented fiscal retrenchment set is coded as '3' for local governments that used both tax policy and cost cutting strategies in their fiscal retrenchment composition. A middle conflict-oriented fiscal retrenchment set is coded as '2' for local governments that used either tax policy or cost cutting strategies in their fiscal retrenchment strategies. Lastly, a low conflict-oriented fiscal retrenchment set is coded as '1' for local governments that used neither tax policy nor cost cutting strategies in their fiscal retrenchment strategies. Thus, the sampled local governments generally used a middle conflict-oriented fiscal retrenchment composition (either tax increases or expenditure cuts) to overcome fiscal stress during the Great Recession. The average of citizen participation, the

independent variable, is 0.281, meaning that most local governments did not have fiscal decision making engaged with citizens during the Great Recession.

Table 5.2.1 Descriptive results in the fiscal retrenchment implementation model

Variables	Observation	Mean	SDV	Min	Max
Fiscal Retrenchment Strategy	1427	1.896	.494	1	3
Citizen Involvement	1448	.281	.450	0	1
2008 Unreserved Fund Balance	1212	.323	377	-.423	7.014
2008 General Fund Ratio	1212	1.051	.264	.265	4.159
2008 Net Asset Ratio	1162	.200	.172	-1.440	1
2008 Unrestricted Asset Ratio	1194	.480	.523	-2.162	5.731
2008 Long-term Liability	1162	.265	.198	0	2.690
The Great Recession Effect	1542	3.304	.861	1	5
2008 Intergovernmental Revenue	1212	.148	.160	0	1
Non-elected Form	1613	.669	.470	0	1
Code of Ethics	1495	0.282	.450	0	1
Racial Diversity	1612	19.551	16.936	0	84.9
Political Conflicts	1539	2.185	1.086	0	5
Union Coverage	1613	37.413	17.967	10.8	74.8
Population	1612	54290	172175	418	3796840
Income	1612	25243	10087	7493	104382
Education Attainment	1612	84.736	9.083	28.3	100
Elder Population	1612	14.086	5.392	2.6	51.2
Local Autonomy	1613	.140	.318	-.982	.845
TELs Index	1613	8.227	5.977	0	27
Government Type	1613	.821	.383	0	1

Regarding control variables, I employed 2008 fiscal health indicators for the fiscal retrenchment model. The average of the 2008 unreserved fund balance is 32.3% of the total expenditures. The sampled local governments can use the unreserved funds to reduce budget deficits in the amount of 32.3% of the total expenditures in 2008. Table 5.2.1 shows that the average of the 2008 general fund balance is 1.051. The sampled local governments had budget surpluses in the amount of 5.1% of the total expenditures in 2008. The average of the 2008 net asset ratio is 20.0%. The sampled local governments had restricted and unrestricted funds in the amount of 20.0% of the total assets on average for overcoming future fiscal

stress. On the average of the unrestricted net asset ratio (48.0%), the sampled local governments could cope with future fiscal stress in the amount of 48% of the total expenses. Lastly, the average of the 2008 long-term liability ratio is 26.5%. The sampled local governments have long-term liabilities that average 26.5% of the total assets. In 2008, the sampled governments generally did not have greater fiscal stress because 2008 is an initial year of the Great Recession. Most local governments suffered severe fiscal stress in 2009 (Pagano & Hoene, 2012). The average of the Great Recession effect, the subjective fiscal health variable, is 3.304. The respondents subjectively thought that their local governments were struggling moderately or greater with fiscal stress during the Great Recession based on a 5-point Likert scale, with 5 equal to severe effects. The average of the 2008 intergovernmental revenue ratio is 14.8%. The sampled local governments use financial resources from the federal and state governments in the amount of 14.8% of the total expenditures.

The average of the non-elected form is 0.669, meaning that most local governments have a non-elected leader. On the average of code of ethics (0.282), most sampled local governments did not adopt a code of ethics. The average of racial diversity is 19.55%, meaning that most sampled local governments are white population-oriented communities. The average of political conflicts is 2.185. Based on a 5-point Likert scale, with 5 equal to not effective, the respondents generally thought that their council, board, and commission, as a decision-making body work together effectively or greater. On the average of the union coverage, 37.4% of the state and local government workers of the sampled local governments were covered by a collective bargaining agreement in 2009. The average population is 54,290. The average of per capita income is $25,243. The income level of the sampled local

governments is lower than the U.S. ($27,334). On the average of the education attainment, 84.73% of the population 25 and older had educational attainment of high school graduate or higher. On the average of elder population, the sampled local governments have population aged 65 over in the amount of 14.08% of the total population. The overall local government autonomy index is a factor score of state local autonomy on local debt, property tax rate, revenues, and expenditures. Local governments with a higher autonomy index are more likely to have fiscal authority to raise revenues and expenditures. On the average of the local autonomy (mean: 0.14, min: -0,982, max: 0.845), the sampled local governments generally have greater fiscal authority to raise revenues and expenditures. As another fiscal institutional variable, the restrictiveness of TELs is an index, ranging from 1 to 27, composed of the following five indicators: (1) the type of TEL, (2) specific restrictions, (3) either statutory or constitutional, (4) override and exemption provisions, and (5) method of override (Amiel et al., 2009). Local governments with a higher TELs index are less likely to have fiscal authority to raise taxes and expenditures. On the average of the TELs index (mean: 8.22, min: 0, max: 27), the sampled local governments have a lower level of the restrictiveness of taxes and expenditures. Lastly, most sampled governments are cities, based on the average of government type (0.821).

I checked the correlation among the employed variables prior to regression analysis. The correlation matrix of the variables is shown in Table 5.2.2. There are two correlations with an absolute value greater than 0.5. The 2008 unrestricted net asset ratio is correlated with the 2008 net asset ratio (0.583). Also, education attainment has a correlation with per capita income (-0.673).

Table 5.2.2 The correlation matrix of the fiscal retrenchment implementation model

	Variables	1	2	3	4	5	6	7	8	9	10
1	Fiscal Retrenchment Strategy	1.000									
2	Citizen Involvement	0.149	1.000								
3	2008 Unreserved Fund Balance	-0.115	-0.033	1.000							
4	2008 General Fund Ratio	-0.021	0.005	0.288	1.000						
5	2008 Net Asset Ratio	-0.071	-0.036	0.280	0.044	1.000					
6	2008 Unrestricted Asset Ratio	-0.096	-0.046	0.445	0.094	0.583	1.000				
7	2008 Long-term Liability	0.032	0.002	-0.130	-0.048	-0.381	-0.392	1.000			
8	The Great Recession Effect	0.285	0.167	-0.123	-0.002	-0.026	-0.073	0.045	1.000		
9	2008 Intergovernmental Revenue	0.000	-0.041	-0.016	0.007	0.043	-0.003	-0.022	0.097	1.000	
10	Non-elected Form	0.059	0.121	0.009	-0.014	0.076	0.034	-0.023	0.040	-0.144	1.000
11	Code of Ethics	-0.088	-0.042	-0.022	0.017	0.083	0.056	0.006	-0.047	0.013	0.067
12	Racial Diversity	0.073	0.021	-0.032	-0.066	-0.028	-0.120	0.061	0.145	-0.080	0.088
13	Political Conflicts	0.057	-0.005	-0.068	0.013	0.013	-0.035	-0.000	0.013	0.028	-0.020
14	Union Coverage	0.041	0.119	-0.088	0.072	0.094	0.106	-0.129	0.193	0.155	-0.012
15	Population	0.110	0.070	-0.085	0.014	-0.095	-0.114	0.083	0.158	0.014	0.037
16	Income	0.056	0.104	0.151	0.177	0.017	0.142	-0.037	-0.058	-0.179	0.122
17	Education Attainment	-0.090	-0.079	-0.099	-0.130	0.016	-0.108	0.047	0.022	0.254	-0.146
18	Elder Population	-0.087	0.020	0.033	-0.018	0.112	0.017	0.002	0.018	0.130	0.018
19	Local Autonomy	-0.046	-0.120	0.128	0.069	-0.036	-0.081	0.087	-0.055	-0.042	-0.043
20	TELs Index	-0.027	-0.003	-0.013	-0.004	0.156	0.111	-0.128	0.068	-0.033	0.111
21	Government Type	-0.027	-0.025	0.074	-0.056	0.019	0.164	-0.007	-0.080	-0.129	-0.088

	Variables	11	12	13	14	15	16	17	18	19	20
11	Code of Ethics	1.000									
12	Racial Diversity	-0.079	1.000								
13	Political Conflicts	0.007	-0.011	1.000							
14	Union Coverage	0.069	-0.164	0.042	1.000						
15	Population	-0.042	0.195	0.004	-0.006	1.000					
16	Income	0.018	-0.140	0.004	0.105	0.048	1.000				
17	Education Attainment	-0.004	-0.115	0.030	-0.027	-0.133	-0.673	1.000			
18	Elder Population	0.075	-0.255	-0.011	-0.008	-0.139	0.135	0.204	1.000		
19	Local Autonomy	-0.089	0.049	-0.032	-0.441	0.005	0.017	-0.000	0.039	1.000	
20	TELs Index	0.060	-0.055	-0.024	0.382	0.037	0.060	-0.121	-0.017	-0.055	1.000
21	Government Type	0.037	0.017	-0.100	0.118	-0.246	0.055	-0.165	0.022	-0.001	0.152

5.2.2 Estimation results

I tested whether the model satisfied several statistical concerns. The VIF of the fiscal retrenchment model is 1.49, meaning that the model does not have any serious issues with multicollinearity. Table 5.2.3 shows the results of the fiscal retrenchment implementation model. The model is statistically significant at the 99 percent confidence level ($\chi^2 = 126.15$ for the Ordered Logit model). Based on the Pseudo R^2 for the Ordered Logit regression model, the explanatory power of the sample is 13.8%. The current study deleted samples for local governments with missing data for applicable variables, resulting in a sample size of 947.

Table 5.2.3 Estimation results in fiscal retrenchment implementation model

Variables	Citizen Participation
Citizen Involvement	.464**
	(.169)
2008 Unreserved Fund Balance	-.356
	(.223)
2008 General Fund Ratio	-151
	(.285)
2008 Net Asset Ratio	.409
	(.527)
2008 Unrestricted Asset Ratio	-.335*
	(.194)
2008 Long-term Liability	-.206
	(.355)
The Great Recession Effect	.837***
	(.110)
2008 Intergovernmental Revenue	.447
	(.551)
Non-elected Form	.182
	(.195)
Code of Ethics	.347**
	(.171)
Racial Diversity	-.005
	(.005)
Political Conflicts	-.128*
	(.175)
Union Coverage	-.005
	(.005)
Population (log)	.507**
	(.170)
Income (log)	2.261**
	(.832)
Education Attainment	-.012
	(.014)
Elder Population	-.040**
	(.015)
Local Autonomy	-.365
	(.327)
TELs Index	-.019
	(.012)
Government Type	.524**
	(.230)
Log Likelihood	-575.1996
Wald chi^2	126.79
Pseudo R^2	0.112
N	947

*$p < 10$, **$p < 05$, ***$p < 01$

I expected citizen involvement to have a positive association with the composition of fiscal retrenchment strategies, based on the argument that information from citizens about their public program priorities helps governments to allocate financial resources without conflicts from interest groups and stakeholders (Robbins, Simonsen, & Feldman, 2008). The finding shows that citizen involvement has a significantly positive association with the composition of fiscal retrenchment strategies. Citizen participation may play an important role in helping local governments to implement a higher conflict-oriented composition of fiscal retrenchment strategies. Government fiscal choices may encourage governments to adopt citizen participation (Handley & Howell-Moroney, 2010; Dalehite, 2008; Irvin & Stansbury, 2004; Arnstein, 1967). To resolve the potential endogeneity problem, I used Two-Stage Least Squares (2SLS) regression with an instrumental variable. This model offers a finding that citizen involvement, the main independent variable, had consistent results with the ordered logit model. The results of 2SLS regression support the second hypothesis (see Appendix). However, the ordered logit model is more appropriate than the 2SLS model because the fiscal retrenchment variable is a categorical value. Consequently, the result supports the second hypothesis: "*Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies.*"

The control variables are extracted from two theoretical issues: (1) the implementation of fiscal retrenchment may vary depending on the degree of resource scarcity (Levine et. al., 1981); and (2) conflicts from stakeholders, interest groups, and citizens may produce a variation in the implementation of fiscal retrenchment strategies (Wolman & Davis, 1980; Morrison, 1980; Greenhalgh & McKersie, 1980). Regarding the resource scarcity issue,

I expected that the unreserved fund balance, general fund balance, net asset ratio, and unrestricted net asset ratio would be negatively associated with the composition of fiscal retrenchment strategies; this relationship is reversed in the long-term liability ratio. The finding shows that the 2008 unrestricted net asset ratio has a significantly negative effect on the composition of fiscal retrenchment strategies, as expected. This means that local governments with a lower unrestricted net asset ratio were more likely to use a high confict-oriented composition of fiscal retrenchment strategies during the Great Recession. The 2008 unreserved fund balance and general fund balance have negative effects on the composition of fiscal retrenchment strategies, but this reglationship is not significant. There are some unexpected relationships between fiscal health and the composition of fiscal retrenchment strategies. The 2008 net asset ratio has a positive relation to the composition of fiscal retrenchment strategies; also, the long-term liability ratio has a negative effect on the composition of fiscal retrenchment strategies, but this relationship is not significant. The 2008 fiscal health indicators may not fully reflect the fiscal stress of local governments because 2008 is an initial year of the Great Recession. This may be a reason for the insignificant mixed findings.

I employed two other control variables on the side of the resource scarcity issue, expecting that fiscal decision makers' perceptions of fiscal stress have a positive relation to the composition of fiscal retrenchment strategies. The Great Recession effect has a significantly positive effect on the implementation of fiscal retrenchment strategies, as expected. Fiscal decision makers may rely on their subjective view of fiscal stress when implementing fiscal retrenchment strategies. General intergovernmental revenues as a percentage of general fund revenues were additionally employed as a control variable for the

fiscal retrenchment implementation model. I expected the 2008 intergovernmental ratio to have a negative association with the composition of fiscal retrenchment strategies. However, the finding shows that the 2008 intergovernmental revenue ratio has a positive relation to the composition of fiscal retrenchment strategies; furthermore, this relationship is not significant. This finding may result from using the 2008 fiscal indicators that may be inappropriate to reflect the fiscal stress of the Great Recession as mentioned above. Despite some significant variables, most do not have significant effects on the composition of fiscal retrenchment strategies. Thus, Levine's fiscal retrenchment framnework (1980) is partially supported in the model.

With respect to the conflict issue, I extracted form of government, code of ethics, racial diversity, political conflicts, and union coverage from the literature on fiscal retrenchment. The expected sign of the non-elected leader form is positive on a higher conflict-oriented fiscal retrenchment composition because politically insulated governments can focus on efficiency in implementing fiscal retrenchment. The finding shows that a non-elected leader form is positively associated with a higher conflict-oriented composition of fiscal retrenchment strategies, but this relationship is not significant.

Rubin (1980) argues that government transparency encourages public officials to support high conflict-oriented fiscal retrenchment strategies such as layoffs and reduced benefits. Based on this argument, I expected the code of ethics to have a positive relation to the composition of fiscal retrenchment strategies. Code of ethics has a siginificantly positive effect on the implementation of fiscal retrenchment strategies, as expected.

I expected racial diversity to be associatiated with the composition of fiscal

retrenchment strategies because local governments with a higher conflict from racial diversity tend to avoid higher conflict-oriented fiscal retrenchment strategies (Jimenez, 2014). The finding shows that racial diversity has a negative relation to the composition of fiscal retrenchment strategies, but this relationship is not significant. Racial diversity may not matter to local governments to implement a higher conflict-oriented composition of fiscal retrenchment strategies.

The tax policy and cost cutting strategy may generate conflicts of council members who represent the interests of citizens and taxpayers. I expected political conflicts to have a negative expected sign on the composition of fiscal retrenchment strategies. The finding shows political conflicts have a significantly negative effect on the composition of fiscal retrenchment strategies, as expected. Thus, it may be important for governments to reduce conflicts of council members in implementing a higher conflict-oriented composition of fiscal retrenchment strategies.

As another conflict variable, union coverage has a negative expected sign on the composition of fiscal retrenchment strategies. The finding shows that union coverage is negatively associated with the composition of fiscal retrenchment strategies, but this relationship is not significant. The union coverage variable was calculated by state and local government workers covered by a collective bargaining agreement as a percentage of total state and local government employment from the Union Membership and Coverage Database by Hirsh and MacPherson (2010). In other words, it cannot reflect conflicts from strong unions at the local level only. This may be a reason why the relationship is not significant. Consequently, the results partially support the argument that manageable conflicts help governments to implement a higher conflict-oriented fiscal retrenchment composition.

It has been argued that local governments with a higher population and per capita income tend to avoid a higher conflict-oriented fiscal retrenchment composition (Jimenez, 2014; Maher & Deller, 2006; Pammer, 1990). I expected that population and per capita income would have negative effects on the composition of fiscal retrenchment strategies. The finding shows that population and per capita income have a significantly positive association with the composition of higher conflict-oriented fiscal retrenchment strategies. The literature has argued that a higher level of population and per capita income are negatively related to high conflict-oriented fiscal retrenchment strategies (Jimenez, 2014; Maher & Deller, 2006; Pammer, 1990). However, the finding is opposite to this argument. The following reasons may allow us to understand the opposite finding. First, local governments with a higher population may have greater bases to levy taxes in implementing tax policy. Second, wealthy people may not have greater fiscal stress from tax increases than others. This tendency may allow wealthy people to pay additional taxes to overcome fiscal stress.

The expected sign of education attainment on the composition of fiscal retrenchment strategies is not clear. The finding shows that local governments with a higher level of education attainment are less likely to use a higher conflict-oriented composition of fiscal retrenchment strategies, but this relationship is not significant.

I expected elder population to be negatively associated with the composition of fiscal retrenchment strategies. The finding shows that elder population has a significantly negative relation to the composition of fiscal retrenchment strategies, as expected. This result supports that previous findings that local governments with a higher population of the elderly tend to implement targeted cuts; but they tend to avoid increased property taxes (Jimenez, 2014; Ladd & Wilson, 1982).

The model has two fiscal institutions: (1) local autonomy and (2) TELs index. Local autonomy has a positive expected sign on the composition of fiscal retrenchment strategies, whereas the restrictiveness of TELs has a negative expected sign on the composition of fiscal retrenchment strategies. Both fiscal institutions are negatively associated with the composition of fiscal retrenchment strategies, but this association is not significant. The fiscal institutions are about state-imposed fiscal limits. Thus, I may not capture an actual variation in local fiscal institutions. This may be a reason why the fiscal institutional variables are not significant.

Although there is an unclear relationship between government type and the composition of fiscal retrenchment strategies, the finding shows that cities are more likely to implement higher conflict-oriented fiscal retrenchment strategies than counties. It is possible that differences in the composition of fiscal retrenchment strategies are related to differences in functions of government type. Counties tend to be more "creatures of the state" than cities. Counties have more mandated public services with greater fiscal limits on the types of revenue sources they can use than cities. This possible argument may explain why cities tend to use a higher conflict-oriented composition of fiscal retrenchment strategies.

5.3 Fiscal recovery model

The OLS regression model was employed to test the following hypothesis in the fiscal recovery model: "*Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health*." I use seven equations organized by different fiscal recovery

dependent variables including the unreserved fund balance ratio, general fund balance ratio, net asset ratio, unrestricted net asset ratio, long-term liability ratio, and two fiscal health indexes.

5.3.1 Descriptive statistics

Table 5.3.1 shows the descriptive results for the fiscal recovery model. The dependent variables are the fiscal recovery of the objective fiscal health indicators. During the period between the Great Recession and post-Great Recession, the average of the fiscal recovery of the unreserved fund balance is 3.6%, meaning that the sampled governments in the post-Great Recession can use more unreserved funds to cover budget deficits than in the Great Recession in the amount of 3.6% of the total expenditures. On the average of fiscal recovery of the general fund balance, the sampled governments in the post-Great Recession have more budget surpluses than the Great Recession in the amount of 3.7% of the total expenditures. The average of the fiscal recovery of the net asset ratio is 0.0%, meaning that there is little fiscal recovery of the net asset ratio during the same period. On the average of the fiscal recovery of the unrestricted net asset ratio, the sampled governments in the post-Great Recession can use more unrestricted funds to cope with future fiscal stress than in the Great Recession in the amount of 1.6% of the total expenses. The average of the fiscal recovery of the long-term liability ratio is -1.4%. The sampled local governments in the post-Great Recession have lower long-term liabilities as a percentage of total assets. The standardized scores of the fiscal health indexes each decreased, by 62.3% (Fiscal Health Index 1) and 83.5% (Fiscal Health Index 2). This result indicates that there is little significant fiscal improvement between the sampled local governments in relative comparison. Although

the sampled local governments have an improved fiscal state in general, the asset ratio is pretty stable during the same period. The net asset ratio includes restricted net assets that have an earmark to spend for a specific purpose regardless of fiscal stress. Thus, local governments may be less likely to improve the net asset ratio during the period.

Table 5.3.1 Descriptive results in the fiscal recovery model

Variables	Observation	Mean	SDV	Min	Max
Unreserved Fund	1205	.036	.397	-4.789	3.331
General Fund	1221	.037	.679	-4.158	19.133
Net Assets	1168	.000	.110	-.747	.826
Unrestricted Assets	1167	.016	.380	-2.974	3.313
Long-term Liability	1151	-.014	.103	-.665	.505
Fiscal Index 1	1149	-.623	2.514	-21.767	44.554
Fiscal Index 2	1145	-.835	1.853	-25.028	15.562
Citizen Involvement	1448	.281	.450	0	1
Fiscal Retrenchment Strategy	1427	1.896	.494	1	3
Interaction Term	1385	.554	.874	0	3
Non-elected Form	1613	.669	.470	0	1
Local Autonomy	1613	.140	.318	-.982	.845
TELs Index	1613	8.227	5.977	0	27
Strategic Planning	1500	.649	.477	0	1
Population	1612	54290	172175	418	3796840
Family Poverty	1612	12.072	7.275	0	44.9
Unemployment Rate	1612	5.812	2.352	0	15.8
Income	1612	25243	10087	7493	104382
2008 Unreserved Fund Balance	1212	.323	.377	-.423	7.014
2008 General Fund Balance	1212	1.051	.264	.265	4.159
2008 Net Asset Ratio	1162	.200	.172	-1.440	1
2008 Unrestricted Net Asset	1194	.480	.523	-2.162	5.731
2008 Long-term Liability	1162	.265	.198	0	2.690
2008 Fiscal index 1	1141	.000	1	-4.242	16.556
2008 Fiscal index 2	1141	.000	.999	-3.101	7.457
Political Conflicts	1539	2.185	1.086	0	5
Racial Diversity	1612	19.517	16.679	0	85.5
Government Type	1613	.821	.383	0	1

The average of citizen participation, the independent variable, is 0.281, meaning that many local governments did not have fiscal decision making engaged with citizens during the Great Recession. The average of the composition of fiscal retrenchment strategies is 1.896. The sampled local governments generally used middle conflict-oriented fiscal

retrenchment strategies (either tax increases or expenditure cuts) to overcome fiscal stress during the Great Recession.

The average of the interaction term between fiscal retrenchment and citizen participation, the key independent variable, is 0.554. This interaction term is a categorical variable. First, a high conflict-oriented fiscal retrenchment composition interacted with citizen participation is coded as '3.' Second, a middle conflict-oriented fiscal retrenchment composition interacted with citizen participation is coded as '2.' Third, a low conflict-oriented fiscal retrenchment composition interacted with citizen participation is coded as '1.' Lastly, all fiscal retrenchment compositions without citizen participation are coded as '0.' Thus, the sampled local governments generally used a lower conflict-oriented composition of fiscal retrenchment strategies during the Great Recession.

Regarding institutional variables, the average of the non-elected form is 0.669, meaning that most local governments have a non-elected leader. On the average of the local autonomy (mean: 0.14, min: -0,982, max: 0.845), the sampled local governments generally have more fiscal authority to raise revenues and expenditures. As another fiscal institutional variable, the restrictiveness of TELs is an index ranging from 1 to 27 which is composed of five indicators: (1) the type of TEL, (2) specific restrictions, (3) either statutory or constitutional, (4) override and exemption provisions, and (5) method of override (Amiel et al., 2009). Local governments with a higher TELs index are less likely to have fiscal authority to raise taxes and expenditures. On the average of the TELs index (mean: 8.22, min: 0, max: 27), the sampled local governments have a low level of the restrictiveness of taxes and expenditures. As the other fiscal institutional variable, the average of strategic planning is 0.649, meaning that most local governments have a strategic plan.

With respect to fiscal environment variables, the average population is 54,290. The average of family poverty is 12.7%. The level of family poverty of the sampled local governments is higher than the U.S. (11.5%). The average unemployment rate is 5.8%. The average of per capita income is $25,243. The income level of the sampled local governments is lower than the U.S. ($27,334).

I employed 2008 fiscal health indicators for the relationship between resource scarcity and fiscal recovery. The average of the 2008 unreserved fund balance is 32.3% of the total expenditures. The sampled local governments can use the unreserved funds to cover budget deficits in the amount of 32.3% of the total expenditures in 2008. Table 5.3.1 shows that the average of the 2008 general fund balance is 1.051. The sampled local governments had budget surpluses in the amount of 5.1% of the total expenditures in 2008. The average of the 2008 net asset ratio is 20.0%. The sampled local governments had restricted and unrestricted funds in the amount of 20.0% of the total assets on average for coping with future fiscal stress. On the average of the unrestricted net asset ratio (48.0%), the sampled local governments could cope with future fiscal stress in the amount of 48% of the total expenses. Lastly, the average of the 2008 long-term liability ratio is 26.5%. The sampled local governments had long-term liabilities in the amount of 26.5% of the total assets. Fiscal Health Index 1 in 2008 is composed of net assets, unrestricted net assets, and long-term liabilities, ranging from -4.242 to 16.556 as shown in Table 5.3.1. 2008 Fiscal Health Index 2 in 2008 is composed of unreserved fund balance and general fund balance, ranging from -3.101 to 7.457 as shown in Table 5.3.1. Because the fiscal health indexes are standardized scores, the average of the fiscal health indexes is 0. The average of political conflicts is 2.185. Based on a 5-point Likert scale, with 5 equal to not effective, the respondents generally

thought that their council, board, and commission, as a decision-making body work together effectively or greater. The average of racial diversity is 19.55%, meaning that most of the sampled local governments are white population-oriented communities. On the average of government type (0.821), there are more cities than counties in the sample.

Table 5.3.2 shows the correlation matrix of the fiscal recovery model. Some strong correlations appear to be in the fiscal recovery model. Per capita income is correlated with family poverty (-0.766). Fiscal Index 1 has correlations with the 2008 net asset ratio (0.624) and 2008 unrestricted net asset ratio (0.604). Fiscal Index 2 is associated with the 2008 unreserved fund balance ratio (0.677) and 2008 general fund ratio (0.610).

Table 5.3.2 The correlation matrix of the fiscal recovery model

	Variables	1	2	3	4	5	6	7	8	9	10
1	Unreserved Fund	1.000									
2	General Fund	0.403	1.000								
3	Net Asset	0.112	0.025	1.000							
4	Unrestricted Asset	0.130	0.024	0.523	1.000						
5	Long-term Liability	-0.070	-0.025	-0.321	-0.301	1.000					
6	Fiscal Index 1	-0.023	0.023	0.032	0.055	-0.001	1.000				
7	Fiscal Index 2	0.032	-0.121	-0.019	0.014	-0.004	0.072	1.000			
8	Citizen Involvement	-0.042	-0.001	-0.055	-0.037	-0.027	0.045	-0.019	1.000		
9	Fiscal Retrenchment Strategy	0.006	0.017	0.033	0.019	-0.065	0.050	0.013	0.092	1.000	
10	Non-elected Form	-0.045	0.030	-0.004	-0.016	-0.011	0.007	0.040	0.103	0.068	1.000
11	Local Autonomy	0.015	0.005	0.024	0.069	0.017	-0.038	0.049	-0.108	-0.032	-0.067
12	TELs Index	-0.015	0.040	-0.008	0.041	-0.031	-0.046	-0.031	-0.012	-0.032	0.118
13	Strategic Planning	-0.026	0.016	0.015	-0.035	-0.008	-0.019	-0.036	-0.022	0.079	0.056
14	Population (log)	-0.093	0.002	0.012	-0.071	-0.006	-0.001	-0.004	0.123	0.206	0.196
15	Family Poverty	-0.105	-0.061	-0.030	-0.058	0.085	0.036	0.026	-0.036	-0.017	-0.000
16	Unemployment Rate	-0.116	-0.030	0.026	-0.004	-0.025	0.068	0.000	0.010	0.089	0.076
17	Income (log)	0.138	0.135	0.029	0.062	-0.062	-0.022	-0.021	0.073	0.042	0.077
18	2008 Unreserved Fund Balance	-0.292	-0.020	-0.033	0.016	-0.026	0.071	0.049	-0.019	-0.110	-0.010
19	2008 General Fund Balance	-0.061	-0.099	0.025	0.028	0.001	-0.119	0.072	0.012	-0.020	-0.009
20	2008 Net Asset Ratio	-0.055	-0.005	-0.179	-0.037	0.089	0.006	-0.024	-0.026	-0.053	0.069
21	2008 Unrestricted Net Asset	-0.024	0.013	-0.131	-0.193	0.103	-0.002	-0.052	-0.034	-0.093	0.027
22	2008 Long-term Liability	-0.008	-0.025	0.098	0.080	-0.284	0.006	0.003	-0.011	0.037	-0.041
23	Fiscal index 1	-0.000	0.070	-0.102	-0.059	0.043	0.056	-0.045	-0.021	-0.055	0.028
24	Fiscal index 2	-0.208	-0.067	-0.023	-0.000	0.006	-0.040	0.074	-0.018	-0.082	-0.012
25	Political Conflicts	-0.009	0.035	-0.003	0.023	0.031	-0.040	0.012	-0.005	0.035	-0.022
26	Racial Diversity	-0.065	0.006	0.028	0.018	-0.003	0.013	0.022	0.036	0.068	0.095
27	Government Type	0.052	0.040	-0.006	0.083	-0.004	0.019	-0.011	-0.018	-0.029	-0.108

	Variables	11	12	13	14	15	16	17	18	19	20
11	Local Autonomy	1.000									
12	TELs Index	-0.055	1.000								
13	Strategic Planning	0.030	-0.037	1.000							
14	Population (log)	0.040	-0.051	0.133	1.000						
15	Family Poverty	-0.011	0.011	-0.052	-0.029	1.000					
16	Unemployment Rate	-0.119	0.130	-0.005	0.098	0.512	1.000				
17	Income (log)	0.015	0.014	0.042	0.152	-0.766	-0.419	1.000			
18	2008 Unreserved Fund Balance	0.100	0.025	0.079	-0.161	-0.062	-0.076	0.089	1.000		
19	2008 General Fund Balance	0.062	-0.005	0.018	0.042	-0.132	-0.081	0.180	0.259	1.000	
20	2008 Net Asset Ratio	-0.049	0.171	0.034	-0.184	0.009	0.020	-0.034	0.274	0.016	1.000
21	2008 Unrestricted Net Asset	-0.121	0.130	0.075	-0.169	-0.112	-0.065	0.086	0.339	0.051	0.584
22	2008 Long-term Liability	0.123	-0.135	-0.030	0.081	0.046	-0.007	-0.043	-0.139	-0.039	-0.407
23	Fiscal index 1	-0.056	0.081	0.033	-0.156	-0.065	-0.014	0.043	0.260	-0.232	0.624
24	Fiscal index 2	0.069	0.000	0.053	-0.111	-0.094	-0.071	0.115	0.677	0.610	0.220
25	Political Conflicts	-0.013	-0.040	-0.021	0.036	-0.021	-0.026	0.027	-0.042	0.033	-0.013
26	Racial Diversity	0.041	-0.093	0.069	0.346	0.333	0.361	-0.144	-0.011	-0.047	-0.016
27	Government Type	0.004	0.142	0.031	-0.395	0.035	0.020	0.004	0.078	-0.051	0.045

	Variables	21	22	23	24	25	26	27
21	2008 Unrestricted Net Asset	1.000						
22	2008 Long-term Liability	-0.421	1.000					
23	Fiscal index 1	0.604	-0.300	1.000				
24	Fiscal index 2	0.386	-0.151	0.046	1.000			
25	Political Conflicts	-0.022	-0.012	0.004	-0.006	1.000		
26	Racial Diversity	-0.096	0.039	-0.035	-0.053	-0.009	1.000	
27	Government Type	0.173	-0.008	0.059	0.095	-0.093	0.012	1.000

5.3.2 Estimation results

I tested whether the model satisfied several statistical concerns. First, based on the Variance Inflated Factors (VIF = 1.44 – 1.50), the equations of the fiscal recovery model do not have any serious issues with multicollinearity. Second, the skewness of the fiscal recovery model may result in a generalizability problem in interpreting findings. Thus, the population and per capita income variables are transformed into a natural logarithm. Table 5.3.3 presents the results of the fiscal recovery model by the OLS regression with an interaction term between citizen participation and fiscal retrenchment. I deleted samples for local governments with missing data for applicable variables, resulting in a sample size ranging from 883 (Model 7) to 967 (Model 5). The fiscal recovery model offers seven equations with different fiscal recovery dependent variables. The models are statistically significant at the 99 percent confidence level (F = 2.24 - 8.43). There is also a variation in R^2 (2.0% - 33.3%). The unreserved fund balance model has the highest explanatory power (33.3%) among the models. Some possible reasons should be addressed for the low R^2 in some models. First, most studies where I extracted control variables have mainly used an unreserved fund balance as a fiscal health dependent variable in examining determinants of fiscal health (Andrews, 2013; Berry, 1994; Garcia-Sanchez, et al., 2012; Gold, 1992; Hendrick, 2011; Hembree & Shelton, 1999; Jargowsky, 2003; Poister and Streib, 2005). Thus, the control variables may not fully explain other fiscal health dependen variables. Second, the reason for the low R^2 in some models may be some missing control variables such as urban sprawl, city-county consolidation, internal audit stystem, and government fragmentation variables. Third, although the determinants of fiscal health have been well documented in the literature, little research has been devoted to fiscal recovery as a

dependent variable.

Table 5.3.3 Estimation results in the fiscal recovery model

Variables	Model 1 (Unreserved Fund)	Model 2 (General Fund)	Model 3 (Net Asset)	Model 4 (Unrestricted Asset)	Model 5 (Long-term Liability)	Model 6 (Fiscal Index 1)	Model 7 (Fiscal Index 2)
Citizen Involvement	-.318** (.101)	-.284** (.104)	-.080** (.036)	-.281** (.088)	.081** (.031)	-1.493** (.681)	-1.251** (.578)
Fiscal Retrenchment	.019 (.022)	.018 (.016)	.002 (.008)	-.022 (.026)	-.003 (.008)	.179 (.217)	.136 (.145)
Citizen Involvement * Fiscal Retrenchment	.089** (.044)	.084** (.042)	.041** (.08)	.075* (.042)	-.039** (.015)	.712** (.330)	.386 (.281)
Non-elected Form	-.026 (.021)	.013 (.025)	-.005 (.008)	.025 (.021)	.000 (.007)	.110 (.187)	.213 (.197)
Local Autonomy	.065* (.033)	.027 (.057)	.008 (.010)	.069** (.030)	.016* (.009)	-.112 (.351)	.249 (.214)
TELs Index	.000 (.001)	.003 (.002)	.000* (.000)	.002* (.001)	-.001** (.000)	-.025** (.012)	-.009 (.008)
Strategic Planning	.044* (.026)	.014 (.041)	.001 (.008)	.011 (.021)	-.002 (.006)	-.174 (.199)	-.146 (.146)
Population (log)	-.100*** (.001)	-.030 (.041)	-.019** (.007)	-.055** (.019)	.016** (.006)	.105 (.146)	-.013 (.112)
Family Poverty	-.000 (.002)	.007 (.008)	-.000 (.000)	-.003 (.002)	.002** (.000)	.002 (.014)	.005 (.018)
Unemployment Rate	-.009 (.005)	-.005 (.007)	.000 (.002)	-.001 (.004)	-.003** (.001)	.067* (.039)	-.007 (.031)
Income (log)	.345*** (.146)	.927 (.795)	.021 (.042)	.111 (.102)	.020 (.035)	-.664 (.789)	-.242 (.913)
2008 Unreserved Fund Balance	-.568*** (.079)						
2008 General Fund Balance		-.375*** (.087)					
2008 Net Asset Ratio			-.156** (.040)				
2008 Unrestricted Net Asset				-.079* (.041)			
2008 Long-term Liability					-.143*** (.029)		
Fiscal index 1						.079 (.112)	
Fiscal index 2							.136 (.126)
Political Conflicts	-.004 (.011)	.028 (.032)	-.001 (.003)	.005 (.009)	.003 (.002)	-.035 (.078)	.002 (.059)
Racial Diversity	.001 (.000)	.000 (.001)	.000 (.000)	.002** (.000)	-.000* (.000)	-.004 (.002)	.003 (.004)
Government Type	-.003 (.026)	.030 (.020)	-.020* (.010)	.046** (.021)	.000 (.008)	.230 (.206)	-.011 (.234)
F	8.43	3.67	2.34	4.61	3.95	2.24	2.34
R^2	0.333	0.042	0.064	0.100	0.112	0.020	0.028
N	910	910	954	900	967	948	883

Note: Fiscal index 1: Unreserved fund balance and general fund balance
Fiscal index 2: Net asset, unrestricted net asset, and long-term liability
** p < 10, ** p < 05, *** p < 01*

Models 1 and 2 are about general fund-based fiscal recovery dependent variables including the unreserved fund balance and general fund balance. In Models 1 and 2, I expected that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation would be positively associated with the fiscal recovery of the unreserved fund balance and general fund balance. The finding shows that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on the unreserved fund balance and general fund balance, as expected. This result indicates that local governments with a higher conflict-oriented fiscal retrenchment composition that used citizen participation were more likely to improve general fund-based fiscal health than others.

Models 3, 4, and 5 are about net asset-based fiscal recovery dependent variables including the net asset ratio, unrestricted net asset ratio, and long-term liability ratio. While a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a positive expected sign on the net asset ratio and unrestricted net asset ratio, this sign is reversed in the fiscal recovery model of the long-term liability ratio. This expectation is aligned with the findings that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on the net asset ratio and unrestricted net asset ratio; reversely, it has a significantly negative relation to the long-term liability ratio. The results indicate that local governments with a commitment to citizen participation that used a higher conflict-oriented fiscal retrenchment composition are more likely to improve net asset-based fiscal health than others.

I also employed two fiscal health indexes in Models 6 and 7: (1) Fiscal Health Index 1 comprising the net asset ratio, unrestricted net asset ratio, and long-term liability ratio, and

(2) Fiscal Health Index 2 comprising the unreserved fund balance and general fund balance. The expected sign of the interaction term between citizen participation and fiscal retrenchment composition is positive on these two fiscal health indexes. The finding shows that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on Fiscal Health Index 1. There is a positive relationship between the interaction term and Fiscal Health Index 2, but this relationship is not significant. The fiscal recovery model of Fiscal Health Index 2 has the lowest number of the sample of 883 due to missing data for applicable variables. It is possible that the low sample size of Model 7 results in insignificant association between the interaction term and Fiscal Health Index 2, even though the direction of the association is aligned with the expectation.

Six of the models support the second hypothesis that "*Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health*." However, this is not the case for Model 7. Thus, the second hypothesis is partially supported in the fiscal recovery model.

Fair taxpayers may accept increased tax rates for the current level of public services and government fiscal stress; also, they may allow governments to implement tax policy strategies without conflicts (Simonsen & Robbins, 2003; Welch, 1985). Based on this argument, I expected that citizen participation itself would have a positive relation to fiscal recovery. In Table 5.3.3, citizen participation has a significantly negative effect on fiscal recovery in six of the models: the unreserved fund, general fund balance, net asset ratio, unrestricted net asset ratio, and the two fiscal health indexes. It also has a significantly

positive effect on the long-term liability ratio. This positive relationship between citizen participation and fiscal recovery actually means that citizen participation was associated with worse fiscal recovery. Thus, local governments with a commitment to citizen participation were less likely to improve fiscal health than others in the models. The results are opposite to the expectation. It seems that citizens are 'free-riders' who want to enjoy a high quality of public services without an increase in tax rates (Franklin et al., 2009; Zhang & Liao, 2011).

I expected that a higher conflict-oriented fiscal retrenchment composition would be positively associated with fiscal recovery, based on the argument that fiscal health may vary depending on how governments can implement high conflict oriented fiscal retrenchment strategies (see Caiden, 1984; Bahl & Duncombe, 1992; Wolman & Davis, 1980; Greenhalgh & McKersie, 1980; Peters & Rose,1980; Rubin, 1980). There mixed signs on the relationship between fiscal retrenchment and fiscal recovery. A higher conflict-oriented fiscal retrenchment composition has a positive association with the unreserved fund balance, general fund balance, net asset ratio, and the two fiscal indexes. It also has a negative effect on the long-term liability ratio. This negative relationship between fiscal retrenchment and long-term liabilities actually means that a higher conflict-oriented fiscal retrenchment composition contributed to improving fiscal health. Thus, a higher conflict-oriented fiscal retrenchment composition improved fiscal health in 6 of the models. However, there is a negative relationship between a higher conflict-oriented fiscal retrenchment composition and the unrestricted net asset ratio. This means that the fiscal retrenchment composition did not contribute to the unrestricted net asset fiscal recovery. The models do not offer a significant relationship between fiscal retrenchment and fiscal recovery. I used the composition of fiscal retrenchment, but not individual fiscal retrenchment tactics. Thus, the fiscal retrenchment

measures did not reflect variations in the effects of individual fiscal retrenchment tactics on fiscal recovery. This may be a reason why the models have mixed signs and insignificant relationship between fiscal retrenchment and fiscal recovery.

I visualized the relationship between the fiscal retrenchment composition combined with citizen participation and fiscal recovery by providing predictive margins of citizen participation for group comparison between local governments with a commitment to citizen participation and without citizen participation in examining the effect of fiscal retrenchment on fiscal recovery. According to the predictive margins of the citizen participation in the Appendix, the figures show that local governments that did not use citizen participation at all ended up with higher recovery for all three sets of strategies than did governments with citizen participation in four cases. Thus, local governments that used citizen participation had higher recovery with the higher conflict strategies, but not always compared to the governments that did not use participation. This may be a reason that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a positive effect on fiscal recovery, whereas citizen participation itself has a negative association with fiscal recovery.

I expected the non-elected leader form to have a positive effect on fiscal health. There are mixed signs on the relationship between the non-elected leader form and fiscal health dependent variables; also they are not significant in the models. The finding shows that the non-elected form contributed to the general fund balance ratio, unrestricted net asset, and the two fiscal indexes, but this is not the case for the net asset ratio and long-term

liability.[10] The non-elected leader form represents efficiency-oriented financial management. However, manageable political environments may be more important than efficiency-oriented financial management in implementing tax increases and public service cuts (see Wolman & Davis, 1980). This may be a reason why the non-elected leader form has a mixed insignificant effect on fiscal recovery.

The expected sign of local autonomy is positive on fiscal recovery. The finding shows that local autonomy has a positive relation to the general fund balance, net asset ratio, and Fiscal Health Index 1; also, it is negatively associated with Fiscal Health Index 1. However, these associations are not significant. In Models 1, 4, and 5, local autonomy has a significantly positive effect on the unreserved fund balance, unrestricted net asset ratio, and long-term liability ratio. The positive relationship between local autonomy and long-term liabilities means worse fiscal recovery. Thus, there are mixed findings on the relationship between local autonomy and fiscal recovery. The local autonomy index is a factor score of local autonomy on local debt, property tax rate, revenues, and expenditures. Local governments with a higher local autonomy index tend to have fiscal discretion to increase debt burden. This may be a reason for the positive relationship between the local autonomy index and long-term liability fiscal recovery.

As another fiscal institution, the expected sign of the TELs index on fiscal recovery is not clear. There are mixed findings for the relationship between TELs index and fiscal recovery, as expected. The TELs index has a significantly positive relation to the net asset and unrestricted net asset fiscal recovery. There is also a significantly negative association

[10] The positive sign of the independent variables on the long-term liability ratio means worse fiscal recovery.

between the TELs index and the fiscal recovery of the long-term liability ratio. The negative sign of the TELs index on the long-term liability fiscal recovery means better fiscal health. Thus, these findings indicate that the restrictiveness of TELs contributes to fiscal recovery of local governments. However, the TELs index has a significantly negative effect on the fiscal recovery of Fiscal Health Index. To clearly understand this result, further examination of the relationship between the restrictiveness of TELs and fiscal recovery is needed, by using more sophisticated models and other fiscal heath indicators. Thus, this study follows the inconclusive argument that either TELs lead to government efficiency to improve fiscal health (Nelson & Maher, 2014) or TELs limit fiscal discretion to raise revenues, resulting in fiscal stress of local governments (Ladd & Yinger, 1989).

The last fiscal institution is strategic planning. It has been argued that the adoption of strategic planning can contribute to local fiscal recovery (Shelton & Albee, 2000; Poister & Streib, 2005; Jimenez, 2012). Thus, the expected sign of strategic planning is positive on fiscal recovery. The finding shows that strategic planning has a postive relation to the unreserved fund balance, general fund balance, net asset ratio, and unrestricted net asset ratio. Furthermore, it is negatively associated with the long-term liability fiscal recovery, and the two fiscal health indexes. The negative sign of the strategic planning adoption on the long-term liability fiscal recovery means better fiscal health. Thus, there are mixed signs on the relationship between strategic planning and fiscal recovery. Additionally, the adoption of strategic planning has a significant positive effect only on the unreserved fund balance, as expected. Although the previous studies have offered a conclusion that the adoption of strategic planning is positively associated with fiscal health at the local level (Jimenez, 2012; Poister & Streib, 2005; Shelton and Albee, 2000), the result is limited to only the fiscal

recovery of the unreserved fund balance in this study.

I expected that a population size would be negatively relate to fiscal recovery. There is a mixed association between population, and the general fund balance, and the two fiscal health indexes, but this relationship is not significant. Population has a significantly negative effect on the fiscal recovery of unreserved fund balance, net assets, and unrestricted net assets, as expected. It is also statistically positive on the fiscal recovery of long-term liability, as expected. The positive relationship between population and long-term liabilities means worse fiscal recovery. Thus, the results partially support the argument that a higher level of population deteriorates fiscal health of local governments due to increased spending needs of public services and infrastructure (Fox & Sullivan, 1978).

The expected sign of family poverty is negative on fiscal recovery. The finding shows that family poverty has a significant positive relation to the long-term liability fiscal recovery, as expected, because this positive association between family poverty and long-term liabilities means worse fiscal health. However, the finding also shows that family poverty has a mixed sign on the unreserved fund balance, general fund balance, net assets, unrestricted net assets, and the two fiscal health indexes. Thus, this result is partially consistent with the argument that a large portion of low income people may discourage local governments from collecting sufficient financial resources from taxes, resulting in a poor fiscal state (Jargowsky, 2003). Further examination of this relationship is needed in future research.

I expected that the unemployment rate would be negatively associated with fiscal recovery. Models 1, 2, 3, 4, and 7 do not have a significant relationship between

unemployment rate and fiscal recovery. However, unemployment rate has a significantly negative effect on the long-term liability fiscal recovery. It is also statistically positive on Fiscal Health Index 1. The negative relationship between unemployment rate and long-term liabilities means better fiscal recovery. Thus, local governments with a higher unemployment rate were more likely to improve the long-term liability health and Fiscal Health Index 1. The findings offer an opposite result to the expectation. Local governments may focus on efficiency to reduce spillovers of financial resources when expecting lower tax levies from a poor economic condition. Their efficient-oriented financial management might contribute to fiscal recovery during the Great Recession. This may be a reason why the findings offer an opposite result to the expectation.

As another economic condition variable, per capita income has a positive expected sign on fiscal recovery. There is an insignificant mixed finding on the relationship between per capita income and fiscal recovery in Models from 2 (unreserved fund balance) to 7 (Fiscal Health Index 2). Per capita income has a significantly positive effect on the fiscal recovery of unreserved fund balance, as expected. This result follows the conclusion that low per capita income has negative effects on fiscal health (Jargowsky, 2003; Ladd & Yinger, 1989). However, this conclusion is limited to the unreserved fund balance. Local governments with a higher level of per capita income may collect general funds from property, sales, and income taxes more than others, but this may not be the case for asset-based funds. This is a reason why per capita income is positively associated only with the unreserved fund balance fiscal recovery. Nevertheless, it is not significant on the general fund balance fiscal recovery, one of the general fund-based fiscal health indicators. Further examination of this relationship is needed in future research.

The seven equations each include one same 2008 fiscal health variable as a control variable. I expected each 2008 fiscal health variable to have a positive effect on fiscal recovery; but this expectation is reversed in the long-term liability fiscal recovery. The two 2008 fiscal health indexes do not have significant effects on fiscal recovery. In Models 1 through 5, each 2008 fiscal health variable has a significantly negative effect on fiscal recovery. The negative relationship between 2008 long-term liabilities and the long-term liability improvement means better fiscal recovery. Thus, the findings offer a mixed result for the relationship between the 2008 fiscal health indicators and fiscal recovery. Local governments with higher fiscal health in 2008 might have less room to improve fiscal health. This may be a reason why the 2008 unreserved fund balance, general fund balance, net asset ratio, and unrestricted net asset ratio have opposite effects on fiscal recovery.

I expected that political conflict would be negatively associated with fiscal recovery. The finding provides a mixed insignificant relationship between political conflict and fiscal recovery in the models. The literature used the left party and politically fragmented government variables to generate political conflicts associated with fiscal health (Sanchez et al., 2012). However, I could not use these variables because most local governments have non-partisan elections; so it is not possible to construct a variable based on political parties. Another local political conflict variable may be needed for an examination of the determinants of fiscal recovery.

With respect to community diversity, Marlowe and Portillo (2006) argue that governments tend to use citizen participation to resolve political conflicts from racial diversity. Thus, I expected racial diversity to have a negative sign on fiscal health. However, the result provides a contradictory finding that local governments with a diversified

community are more likely to improve fiscal health regarding unrestricted net assets and long-term liability. This relationship needs to be examined with more sophisticated methods for robust conclusions. Lastly, government type has a mixed effect on fiscal recovery. City governments are statistically negative on the fiscal recovery of net assets, while there is a significantly positive association between city governments and the fiscal recovery of unrestricted net assets. This mixed finding supports the need for further examination for the relationship between government type and fiscal recovery.

5.4 Summary

This chapter showed the findings for the three models related to the following three hypotheses: (1) "*Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel,"* (2) "*Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies,"* and (3) "*Local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health*."

Table 5.1.3 shows the logistic regression results in the citizen participation model. The unreserved fund balance ratio has a significantly negative effect on citizen participation on the side of general fund-based fiscal health. The unrestricted net asset ratio and net asset ratio have significantly positive effects on citizen participation, and the long-term liability ratio has a significantly positive effect on citizen participation on the side of government wide fund-based fiscal health. Furthermore, these findings are aligned with other models that

employed fiscal health indexes and full fiscal health indicators. In the fiscal health index model, Fiscal Health Index 1 has a significantly negative effect on citizen participation. In the full model, the net asset ratio has a significantly negative effect on citizen participation, whereas the long-term liability ratio has a significantly positive effect on citizen participation in the full model. The Great Recession effect, a subjective fiscal health variable, has a significantly positive association with citizen participation in all equations. Based on the findings, the first hypothesis, thus, is partially supported.

There are some limitations on the findings for the citizen participation model. First, the findings partially support the first hypothesis because some fiscal health variables are not significant on citizen participation. There is a need for further research that uses other fiscal health measures, such as cash solvency, in the citizen participation model. Second, some control variables, such as code of ethics, and racial diversity, have mixed effects on citizen participation. Further research is needed for these control variables to provide robust conclusions for the determinants of citizen participation. Third, the result of political culture is opposite to that found in previous studies. Future research is needed to develop more sophisticated political culture variables for robust conclusions for the relationship between political culture and citizen participation. Fourth, the models have somewhat low Pseudo R^2 because there must be some missing variables that I could not include in the citizen participation model. These missing variables need to be found to increase Pseudo R^2 in future research.

Table 5.2.3 shows the results of the fiscal retrenchment model with Ordered Logit estimators. Citizen involvement has a significantly positive association with fiscal retrenchment strategies in all regression models. This finding means that citizen participation

plays a crucial role in helping local governments to implement higher conflict-oriented fiscal retrenchment strategies. The result, thus, supports the second hypothesis.

Some limitations should be addressed. First, most 2008 fiscal health control variables are not significant on the composition of fiscal retrenchment. I used 2008 fiscal health indicators as representing an initial year of the Great Recession because of a possible endogeneity. These control variables may not fully represent the fiscal stress of local governments during the Great Recession. Thus, further research is needed to develop resource scarcity variables in the fiscal retrenchment model. Second, some control variables, such as TELs and local autonomy, were developed at the state level. These variables may not reflect institutional differences across the sampled local governments. There is a need for more sophisticated institutional variables in future research.

Table 5.3.3 shows the OLS regression results with an interaction term between citizen participation and fiscal retrenchment. In Models 1 and 2, the finding shows that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on the unreserved fund balance and general fund balance, as expected. Models 3, 4, and 5 show that a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on the net asset ratio and unrestricted net asset ratio; reversely, it has a significantly negative relation to the long-term liability ratio. In Models 6 and 7, a higher conflict-oriented fiscal retrenchment composition combined with citizen participation has a significantly positive effect on Fiscal Health Index 1. There is a positive relationship between the interaction term and Fiscal Health Index 2, but this relationship is not significant. Fiscal retrenchment combined with citizen participation has a significantly positive effect on the fiscal recovery variables in 6 of

the models. Thus, the third hypothesis is partially supported.

There is a concern about some limitations on the findings in the fiscal recovery model. First, six of the models are significant on the fiscal recovery. Further research is needed for a robust conclusion for the effect of fiscal retrenchment combined with citizen participation on fiscal recovery. Second, the composition of fiscal retrenchment, one of the independent variables, is not significant in the models. I used the composition of fiscal retrenchment but not individual fiscal retrenchment tactics. Using these fiscal retrenchment tactics, the fiscal recovery model needs to be further studied in future research.

Chapter 6: Conclusions

Since the Great Recession, many scholars in the area of public budgeting and finance have asked a question: 'What is the new normal for local financial management?' (Martin, Levey, & Cawley, 2012). The fiscal shock from a decrease in major taxes during the Great Recession forced local governments to implement fiscal retrenchment strategies that may lead to conflicts from resource scarcity. Although it appears to be an important time to use citizen participation for local governments to manage conflicts in fiscal decision making, the existing frameworks are limited to Levine's fiscal decision system that emphasizes resource scarcity and interest groups. Consequently, the new normal for local financial management is an important issue to understand an emerging fiscal decision making process under the severe condition of fiscal environments such as the anti-tax mood, government cynicism, and strong labor unions.

The purpose of this study is to find a new financial management system. Particularly, I suggested the democratic fiscal decision making system to examine; (1) how fiscal stress led to participatory budgeting during the Great Recession; (2) how citizen participation played a role in helping local governments make different fiscal retrenchment decisions to overcome fiscal stress during the Great Recession; and (3) how fiscal retrenchment strategies, as a result of citizen participation, contributed to the fiscal recovery of local governments. To generalize the democratic fiscal decision making system, three hypotheses were proposed: (1) *Local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation as a communication channel*; (2) *Local governments with a commitment to citizen participation were more likely to use a higher conflict-oriented composition of fiscal retrenchment strategies;* and (3) *Local governments with a commitment*

to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health. This study tested these hypotheses with the logistic regression model for the first hypothesis, ordered logit model for the second hypothesis, and OLS regression model with an interaction term for the third model. The results provide at least partial support for all hypotheses.

This chapter contains four sections. The following three sections are about sub-topics for the democratic fiscal decision making system, which are the motivation of citizen participation, the effect of citizen participation on fiscal retrenchment choices, and the effects of citizen participation and fiscal retrenchment on fiscal recovery. In the last section, I offer theoretical discussion of how the democratic fiscal decision making system contributes to the knowledge development of public budgeting and finance.

6.1 Fiscal stress and citizen participation

The results show that local governments with greater fiscal stress are more likely to use citizen participation than others. More specifically, in the objective fiscal health indicators, the unreserved fund balance, unrestricted net asset, and net asset ratio have negative effects on the use of citizen participation; and the long-term liability ratio has a positive effect on the use of citizen participation. This study also employs two fiscal indexes to test the first hypothesis. Among them, Fiscal Index 1 composed of net assets, unrestricted assets, and long-term liabilities is negatively associated with the use of citizen participation. The Great Recession effect, a subjective fiscal health indicator, has a positive relation to the use of citizen participation in the models. These results support the argument that greater

fiscal stress encourages local governments to merge citizen input into their fiscal decision making (Ebdon & Franklin, 2006). This finding allows us to understand why local governments care about citizen participation.

Local governments may consider citizen participation as an instrument to resolve conflicts from resource scarcity; in doing so, they may be intending to understand citizen input as well as to receive public support for tough fiscal decisions that result in conflicts from resource scarcity. In fiscal decision making, resource scarcity results in a poor fiscal state where all decision making actors do not fully satisfy their demands for public services and policies (Bozeman, 2010; Martin et al., 2012; McFarland & Pagano, 2014). Thus, the implementation of fiscal retrenchment strategies may lead to conflicts from tax payers, stakeholders, and interest groups in revenue-raising and expenditure cuts. Irland (1975) argued that citizen participation allows governments to establish a successful conflict management system by delivering public support and public demands about government decisions. The democratic systems theory argues that citizen participation plays a role as a communication channel to deliver inputs for a political decision making system. More specifically, governments can inform citizens of fiscal retrenchment decisions, merge citizen input into such fiscal retrenchment decisions through public reviews, and, finally acquire public support for conflict-based fiscal retrenchment strategies such as tax increases or public service cuts. Using this democratic fiscal decision making process, governments can minimize conflicts from resource scarcity. The results show that local governments with greater fiscal stress are more likely to use citizen participation. Thus, this study provides the understanding of why local governments care about citizen participation by examining how fiscal stress influenced the use of citizen participation during the Great Recession.

This study also contributes to the literature on citizen participation. Although it has been argued that there is a systematic rule for governments to implement citizen participation in fiscal decision making (Martin et al., 2012; Zhang & Liao, 2011), studies of such systematic rules to use citizen participation have been limited to form of government, political culture, democratic institutions, population, and community diversity. The effect of fiscal stress on citizen particiption use is under-researched, even though several studies have argued that local governments are motivated to use citizen participation due to fiscal stress during the Great Recession (Franklin et al., 2009; Godwin, 2014; Martin et al., 2012; Zhang & Liao, 2011). This study offers empirical evidence for this argument by finding that local governments with greater fiscal stress during the Great Recession were more likely to use citizen participation.

6.2 Citizen participation and fiscal retrenchment

The second model is about the relationship between citizen participation and fiscal retrenchment. The results support the hypothesis that local governments with a commitment to citizen participation are more likely to implement a higher conflict-oriented composition of fiscal retrenchment strategies. This study also found that local governments with greater fiscal stress tend to implement a higher conflict-oriented composition of fiscal retrenchment strategies. More specifically, the unrestricted fund balance ratio and the perception of the Great Recession effect are driving forces behind a higher conflict-oriented composition of fiscal retrenchment strategies. The results, thus, support the following two arguments: (1) the level of resource scarcity produces a variation in the implementation of fiscal retrenchment

strategies (Levine et. al., 1981); and (2) the implementation of fiscal retrenchment strategies varies depending on the extent to which decision makers fully manage conflicts from citizens, stakeholders, and interest groups (Wolman & Davis, 1980).

This study provides an answer to the question in the literature on citizen participation: 'Does citizen participation influence budget decisions?' The results allow us to understand how citizen participation influences fiscal decision making, particularly, fiscal retrenchment strategies. Although some studies have examined the relationship between citizen participation and government decision making, they are limited to the development of performance measures and the allocation of CDBG grants (see Handley & Howell-Moroney, 2010; Ho & Coates; 2002; Woolum, 2011). There is limited research examining the relationship between citizen participation and fiscal retrenchment. Jimenez (2014) provides mixed findings that citizen participation is effective on the side of expenditure decisions but not on the side of revenue decisions. Using a theretical concept that local governments generally use a combination of fiscal retrenchment strategies on both the revenue and expenditure side, this study offers a more robust theory of how citizen particiaption relates to the implementation of a higher conflict-oriented composition of fiscal retrenchment strategies under the condition of fiscal stress.

This study also contributes to the literature on fiscal retrenchment. There are inconclusive findings pertaining to whether governments have a systematic rule to implement fiscal retrenchment strategies (Levine et. al., 1981; Wolman & Davis, 1980) or make contingent fiscal retrenchment decisions as a result of the garbage can approach (Pammer, 1990). This study suggests that systematic rules appear in the implementation of fiscal retrenchment strategies. First, greater fiscal stress encourages local governments to

implement a higher conflict-oriented composition of fiscal retrenchment strategies. This study also found that decision makers' perceptions of resource scarcity are associated with the implementation of fiscal retrenchment strategies. Fiscal decision makers may rely on a subjective perspective on fiscal health in implementing fiscal retrenchment strategies rather than objective fiscal health indicators. The literature on fiscal retrenchment strategies has used only objective fiscal health indicators such as intergovernmental revenues (Bartle, 1996) and total revenues (Levine et. al., 1981). This study contributes to the literature on fiscal retrenchment by suggesting that fiscal decision makers' perceptions of fiscal stress may influence the implementation of fiscal retrenchment strategies.

Second, the implementation of fiscal retrenchment strategies varies depending on the extent to which decision makers fully manage conflicts from citizens, stakeholders, and interest groups (Wolman & Davis, 1980). Under the condition of unmanageable conflicts, governments may be reluctant to implement effective fiscal retrenchment strategies, such as tax increases and public service cuts, in overcoming fiscal stress (Bell, 1975; Walker, 1980; Mushkin & Vehorn, 1980). This study argues that citizen participation can be used as a management tool to resolve conflicts from citizens, stakeholders, and interest groups; in doing so, it can allow local governments to implement a higher conflict-oriented composition of fiscal retrenchment strategies.

6.3 Citizen participation, fiscal retrenchment, and fiscal recovery

The findings show that local governments with participatory budgeting that used a higher conflict-oriented composition of fiscal retrenchment strategies are more likely to

improve fiscal health than others. The results allow us to identify the role of citizens in fiscal decision making. Citizens may have double-sided character. On one hand, citizens may play a role as fair taxpayers in implementing a higher conflict-oriented composition of fiscal retrenchment strategies. On the other hand, they may be free-riders, based on the finding that local governments without citizen participation were better for fiscal recovery than those with a commitment to citizen participation.

Local governments tend to employ citizen participation to inform citizens of fiscal decisions that have already been made, but not to merge citizen input into their fiscal decisions (Riedel, 1972). Thus, they have a higher propensity to exclude citizens in tough fiscal decisions that may lead to conflicts from tax increases and public service cuts because biased citizen input from small interest groups and stakeholders can interrupt governments' focus on effective fiscal choices (Roberts, 2004). Furthermore, public officials perceive that citizen participation is a time-consuming process that makes it difficult for governments to immediately cope with urgent problems such as fiscal stress (Irvin & Stansbury, 2004). However, in the results, citizen participation is partially effective on fiscal recovery when local governments make tough decisions such as tax increases and expenditure cuts in implementing fiscal retrenchment strategies. This finding offers important implications for local governments to decide fiscal retrenchment choices. It should be noted that citizens have a double-sided character either to request their demands without paying additional taxes or to support tough fiscal decisions regarding tax increases and expenditure cuts. Thus, it is important for governments to change their characteristics to fair tax payers through citizen participation.

First, governments may change the role of citizens from free-riders to fair tax payers by actively including them in tough fiscal decisions. The case of the City of Lincoln, Nebraska provides an insight into how local governments use citizen participation in fiscal decision making. The city used various citizen participation mechanisms, such as citizen surveys, town meetings, and public hearings, to actively include citizens in implementing both tax increase and expenditure cuts (Hicks, 2011). For example, the customer satisfaction index offered by the citizen survey enabled the city to cut core public services to overcome fiscal stress during the Great Recession. To increase property taxes, the city has had several town meetings to reflect citizen input to tax policies. Despite extreme public service cuts, the City of Lincoln, Nebraska increased property tax rates by 1.47 % in order to cope with fiscal stress from the Great Recession in 2011 (Hicks, 2011).

Second, governments may acquire public support for tough fiscal decisions by improving their transparency and performance through citizen participation. It has been argued that, to receive public support for tough fiscal decisions, governments need to show citizens full information about a fiscal decision making process and the high performance of public services (Kathlene & Martin, 1991; Miller & Miller, 1991). Citizens, stakeholders, and interest groups may not agree with all fiscal retrenchment strategies because of a misconception that governments inefficiently manage financial resources; hence, they do not disclose how fiscal decisions have been made. Citizen participation may be a good opportunity for governments to show their fiscal decision making process and performance; in doing so, governments may make tough fiscal decisions that contribute to fiscal recovery.

Exploring practical benefits of citizen participation, many scholars have attempted to answer the question: "Why should we care about citizen participation?" (Neshkova & Guo,

2012; Yang & Pandey, 2011). Despite normative benefits that have been suggested, public officials who want to achieve administrative goals may be reluctant to use citizen participation without its practical benefits. Although the literature has found that citizen participation influences fiscal choices (Jimenez, 2014) and government performance (Guo & Neshkova, 2013), fiscal benefits of citizen participation have not been previously found. Thus, this study is a first step to offer an answer to the question.

6.4 Democratic financial management system

This study tested the hypotheses based on the democratic financial management system comprising fiscal stress, citizen participation, fiscal retrenchment, and fiscal recovery. The results support the hypotheses, showing that citizen participation plays a role in local fiscal decision making. This finding provides an important contribution to the literature on systems theory by suggesting a new financial management system combined with democratic governance.

Before the emergence of democratic governance, policy making, decisions, and implementation have been considered a territory only for public officials in government. This consideration resulted in an unaccountable decision making process where public officials have been inclined to focus only on 'self-interest' but not on 'public demands' (Bevir, 2010). To enhance government accountability, many public administrators attempt to merge citizen input into government decision making (Box, 1999; Box, Marshall, Reed, & Reed, 2001; Dahl, 1991). However, system theorists have ignored the role of citizen participation in a

political decision system; also, they do not offer empirical evidence on a systems framework combined with democratic governance.

Systems theory is a policy process of how a political decision system as a result of environments produces different outputs (Easton, 1957). Over 60 years, systems theory has been applied to sub-fields of public administration. Morgan et al. (2007) employs systems theory with a focus on community members in urban policy making. In the field of public budgeting and finance, Levine and Rubin (1980) emphasize resource scarcity and interest groups as financial environments that influence fiscal decision making. However, these two applied systems theories ignore citizens as taxpayers who may play a crucial role in helping local governments to implement fiscal retrenchment strategies such as tax increases or public service cuts. In this regard, the contribution to systems theory in this study is a new financial management systems framework combined with democratic governance in the field of public budgeting and finance.

The democratic financial management system is important for scholars to explain how local governments overcame their fiscal stress during the Great Recession as well as for practitioners to cope with fiscal stress from possible fiscal crises in the future. In particular, the democratic financial management system can support the following cases under-generalized. First, local governments with the public service insolvency during the Great Recession have attempted to use citizen participation for fiscal recovery. Second, citizen participation encouraged local governments to implement effective multiple fiscal retrenchment strategy sets to improve fiscal health. Lastly, fiscal retrenchment sets as a result of citizen participation contributed to fiscal recovery of local governments during the Great Recession.

Governing data (2014) shows that 2,710 municipalities were struggling with fiscal stress since the Great Recession. Fiscal crisis is a recurring issue that may arise again in the future. During possible fiscal crises, local governments may implement fiscal retrenchment strategies to overcome financial difficulty under the severe condition of fiscal environments arising from intergovernmental relationships and political conflicts. For example, during the Great Recession, the federal and state governments did not allow local governments to waive ongoing public service programs in reducing intergovernmental revenues and grants; furthermore, taxpayers' perceptions that local governments do not deliver public services with fair tax rates restrained fiscal choices to raise tax rates for fiscal recovery in that period (Martin, Levey, and Cawley, 2012). This study argues that citizen participation in the budget process is an alternative way to overcome possible fiscal crises. Based on the results, local governments can implement an optimal set of fiscal retrenchment strategies by reflecting public demands through citizen participation (e.g., participatory budgeting); also, they may receive public support for severe fiscal retrenchment strategies through citizen participation. This study sheds light on the literature on systems theory by suggesting that a government fiscal decision making process is not only for a territory of public officials but also for citizens.

References

Abney, Glenn, & Lauth, Thomas P. (1986). Interest Group Influence in City Policy Making: The Views of Administrators. In P. Colby (Ed.), *The Politics of State and City Administration*: State University of New York Press.

Ahlbrandt, Roger S., & Sumka, Howard J. (1983). Neighborhood Organizations and the Corproduction of Public Services. *Journal of Urban Affairs, 5*(3), 211-220. doi: 10.1111/j.1467-9906.1983.tb00036.x

Aikins, Stephen Kwamena. (2011). An Examination of Government Internal Audits' Role in Improving Financial Performance. *Public Finance and Management, 11*(4), 306-337.

Alford, John, & Hughes, Owen. (2008). Public Value Pragmatism as the Next Phase of Public Management. *The American Review of Public Administration, 38*(2), 130-148. doi: 10.1177/0275074008314203

Almond, G.A., & Powell, G.B. (1978). *Comparative politics: system, process, and policy*: Little, Brown.

Amiel, Lindsay, Deller, Steven, Stallmann, Judith, & Maher, Craig. (2014). Does the Restrictiveness of State Tax and Expenditure Limitations Affect State Revenues and Expenditures? *International Journal of Public Administration, 37*, 237-248.

Amiel, Lindsay, Steven Deller and Judith I. Stallmann. (2009). The Construction of a Tax And Expenditure Limitation Index for the US. Department of Agricultural and Applied Economics Staff Paper No. 536. May. University of Wisconsin-Madison.

Retrieved from http://www.aae.wisc.edu/pubs/sps/pdf/stpap536.pdf

Anderson, Christopher J., & Guillory, Christine A. (1997). Political Institutions and Satisfaction with Democracy: A Cross-National Analysis of Consensus and Majoritarian Systems. *The American Political Science Review, 91*(1), 66-81. doi: 10.2307/2952259

Andrews, Rhys. (2013). Local Government Amalgmation and Financial Sustainability: The Case of England and Wales. *Public Finance and Management, 13*(2), 124-141.

Arnstein, Sherry. (1967). A Ladder of Citizen Participation. Journal of the American Institute of Planners, 35, 216-224.

Badu, YawAgyeman, & Li, ShengYung. (1994). Fiscal stress in local government: A case study of the tri-cities in the Commonwealth of Virginia. *The Review of Black Political Economy, 22*(3), 5-17. doi: 10.1007/BF02689969

Bahl, Roy, & Duncombe, William. (1992). Economic Change and Fiscal Planning: The Origins of the Fiscal Crisis in New York State. *Public Administration Review, 52*(6), 547-558. doi: 10.2307/977165

Bartle, John R. (1996). Coping with Cutbacks: City Response to Aid Cuts in New York State. *State & Local Government Review, 28*(1), 38-48. doi: 10.2307/4355141

Beck, Paul Allen, Rainey, Hal G., & Traut, Carol. (1990). Disadvantage, Disaffection, and Race as Divergent Bases for Citizen Fiscal Policy Preferences. *The Journal of Politics, 52*(1), 71-93. doi: 10.2307/2131420

Beck, Paul Allen, Rainey, Hal G., Nicholls, Keith, & Traut, Carol. (1987). Citizen Views of Taxes and Services: A Tale of Three Citeis. *Social Science Quarterly, 68*(2), 223-243.

Behn, Robert D. (1980). Leadership for Cut-Back Management: The Use of Corporate Strategy. *Public Administration Review, 40*(6), 613-620. doi: 10.2307/3110316

Bell, George A. (1975). How States Manage Expenditures in an Inflationary-Recessionary Economy. *Public Administration Review, 35*(5), 534-537. doi: 10.2307/974193

Benjaminsen, Tor A. (2008). Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali. *Journal of Peace Research, 45*(6), 819-836. doi: 10.1177/0022343308096158

Benton, J. Edwin. (1986). Economic Considerations and Reagan's New Federalism Swap Proposals. *Publius: The Journal of Federalism, 16*(2), 17-32.

Berman, Evan M. (1997). Dealing with Cynical Citizens. *Public Administration Review, 57*(2), 105-112. doi: 10.2307/977058

Berman, Evan, West, Jonathan, & Cava, Anita. (1994). Ethics Management in Municipal Governments and Large Firms: Exploring Similarities and Differences. *Administration & Society, 26*(2), 185-203. doi: 10.1177/009539979402600204

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

Berry, Frances Stokes. (1994). Innovation in Public Management: The Adoption of Strategic Planning. *Public Administration Review, 54*(4), 322-330. doi: 10.2307/977379

Bevir, Mark. (2010). *Democratic governance*. Princeton, N.J.: Princeton University Press.

Booms, Bernard H. (1966). City Govenmental Form and Public Expenditure Levels. *National Tax Journal, 19*(2), 187-199. doi: 10.2307/41791495

Booth, John A., & Seligson, Mitchell A. (2005). Political Legitimacy and Participation in Costa Rica: Evidence of Arena Shopping. *Political Research Quarterly, 58*(4), 537-550. doi: 10.1177/106591290505800402

Box, Richard C. (1999). Running Government Like a Business: Implications for Public Administration Theory and Practice. *The American Review of Public Administration, 29*(1), 19-43. doi: 10.1177/02750749922064256

Box, Richard C., Marshall, Gary S., Reed, B. J., & Reed, Christine M. (2001). New Public Management and Substantive Democracy. *Public Administration Review, 61*(5), 608-619. doi: 10.2307/977620

Bozeman, Barry. (2010). Hard Lessons from Hard Times: Reconsidering and Reorienting the "Managing Decline" Literature. *Public Administration Review, 70*(4), 557-563. doi: 10.2307/40802232

Brambor, T., Clark, W., & Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political analysis*, 14(1), 63-82.

Brander, James A., & Taylor, M. Scott. (1998). The Simple Economics of Easter Island: A Ricardo-Malthus Model of Renewable Resource Use. *The American Economic Review, 88*(1), 119-138. doi: 10.2307/116821

Brecher, Charles, & Horton, Raymond D. (1985). Retrenchment and Recovery: American

Cities and the New York Experience. *Public Administration Review, 45*(2), 267-274. doi: 10.2307/976147

Brown, Kenneth. (1996). *Ten-Point Test of Financial Condition with Comparative Rotios for Counties*. Springfield, MO: Solstice Productions.

Bureau of Labor Statistics (2012). Labor Force Statistics from the Current Population Survey.

Bureau of Labor Statistics (2014). Labor Force Statistics from the Current Population Survey.

Caiden, Naomi. (1984). Public Budgeting amidst Uncertainty and Instability. In J. Carr (Ed.), *Crisis and Constraint in Municipal Finance: Local Fiscal Prospects in a Period of Uncertainty*. New Brunswick, New Jersey: Center for Urban Policy Research.

Campbell, Rebecca, & Turnbull, Geoffrey. (2003). On Government Structure and Spending: The Effects of Management Form and Separation of Powers. *Urban Studies, 40*(1), 23-34. doi: 10.1080/00420980220080141

Carrell, Jeptha J. (1969). Citizen Participation and Decentralization. *The American Review of Public Administration, 3*(1), 3-12. doi: 10.1177/027507406900300102

Chaney, Barbara A. (2005). Analyzing the Financial Condition of the City of Corona, California: Using a Case to Teach the GASB 34 Government-Wide Financial Statements. *Journal of Public Budgeting, Accounting & Financial Management, 17*(2), 180.

Chanley, Virginia, Rudolph, Thomas, & Rahn, Wendy. (2000). The Origins and Consequences of Public Trust in Government: A Time Series Analysis. *Public*

Opinion Quarterly, 64(3), 239-256. doi: 10.1086/317987

Citrin, Jack. (1979). Do People Want Something for Nonthing: Public Opinion on Taxes and Government Spending. *National Tax Journal, 32*(2), 113-129.

Clark, Benjamin Y. (2015). Evaluating the Validity and Reliability of the Financial Condition Index for Local Governments. Public Budgeting & Finance, 35(2), 66-88. doi: 10.1111/pbaf.12063.

Clark, T., & Appleton, L. (1989). Urban innovation and autonomy : political implications of policy change. In S. E. Clarke (Ed.), *Coping in American cities* (Vol. v. 1, pp. 31-68). Newbury Park, Calif.: Sage Publications.

Clark, Terry N. (1994). Muncipal Fiscal Strain: Indicators and Causes. *Government Finance Review, 10*(June), 27-30.

Clingermayer, J.C., & Feiock, R.C. (2001). *Institutional Constraints and Policy Choice: An Exploration of Local Governance*: State University of New York Press.

Coe, Charles K. (2007). Preventing Local Government Fiscal Crises: The North Carolina Approach. *Public Budgeting & Finance, 27*(3), 39-49. doi: 10.1111/j.1540-5850.2007.00879.x

Coe, Charles K. (2008). Preventing Local Government Fiscal Crises: Emerging Best Practices. *Public Administration Review, 68*(4), 759-767. doi: 10.1111/j.1540-6210.2008.00913.x

Cohen, Jacob, Cohen, Patricia, West, Stephen, & Aiken, Leona. (2013). *Applied Multiple*

Regression/Correlation Analysis for the Behavioral Sciences: Taylor & Francis.

Cohen, Steven and Eimicke, William. (2011). Contracting out. In M. Bevir (Ed.), *The SAGE handbook of governance* (pp. xv, 576 p.). Los Angeles, Calif. ; London: SAGE.

Cole, Richard. (1974). *Citizen participation and the urban policy process*: Lexington Books.

Conant, James K. (2010). Introduction: The "Great Recession," State Budgets, and State Budget Deficits. *Public Budgeting & Finance, 30*(1), 1-14. doi: 10.1111/j.1540-5850.2010.00946.x

Courant, Paul N., Gramlich, Edward M., & Rubinfeld, Daniel L. (1980). Why Voters Support Tax Limitation Amendments: The Michigan Case. *National Tax Journal, 33*(1), 1-20.

Dahl, R.A. (1991). *Democracy and Its Critics*: Orient Longman.

Dalehite, Esteban G. (2008). Determinants of Performance Measurement: An Investigation into the Decision to Conduct Citizen Surveys. *Public Administration Review, 68*(5), 891-907. doi: 10.1111/j.1540-6210.2008.00930.x

Dalton, Russell J. (2000). Citizen Attitudes and Political Behavior. *Comparative Political Studies, 33*(6-7), 912-940. doi: 10.1177/001041400003300609

de Vries, Michiel S. (2000). The Bureaucratization of Participation. *International Review of Administrative Sciences, 66*(2), 325-348. doi: 10.1177/0020852300662008

Deno, Kevin T., & Mehay, Stephen L. (1987). Municipal Management Structure and Fiscal Performance: Do City Managers Make a Difference? *Southern Economic Journal, 53*(3), 627-642. doi: 10.2307/1058759

Der Hovanesian, Mara, & Goldstein, Matthew. (2007). The Mortage Mess Spreads, *Bloomberg and Business*.

Dollery, Brian, & Grant, Bligh. (2011). Financial Sustainability and Financial Viability in Australian Local Government. *Public Finance and Management, 11*(1), 28-47.

Dougherty, George W., & Easton, Jennifer. (2011). Appointed Public Volunteer Boards: Exploring the Basics of Citizen Participation Through Boards and Commissions. *The American Review of Public Administration, 41*(5), 519-541. doi: 10.1177/0275074010385838

Easton, David. (1957). An Approach to the Analysis of Political Systems. *World Politics, 9*(3), 383-400. doi: 10.2307/2008920

Easton, David. (1965a). *A framework for political analysis*: Prentice-Hall.

Easton, David. (1965b). *A systems analysis of political life*. New York: Wiley.

Ebdon, Carol, & Franklin, Aimee L. (2006). Citizen Participation in Budgeting Theory. *Public Administration Review, 66*(3), 437-447. doi: 10.1111/j.1540-6210.2006.00600.x

Ebdon, Carol, & Franklin, Aimee. (2004). Searching for a Role for Citizens in the Budget Process. *Public Budgeting & Finance, 24*(1), 32-49. doi: 10.1111/j.0275-1100.2004.02401002.x

Ebdon, Carol. (2000). The Relationship between Citizen Involvement in the Budget Process and City Structure and Culture. *Public Productivity & Management Review, 23*(3),

383-393. doi: 10.2307/3380726

Elazar, Daniel J. (1994). *The American mosaic: the impact of space, time, and culture on American politics*: Westview Press.

Ethridge, Marcus E. (1980). Agency Responses to Citizen Participation Requirements: An Analysis of the Tennessee Experience. *The American Review of Public Administration, 14*(2), 95-104. doi: 10.1177/027507408001400202

Evans, Angela M., & Campos, Adriana. (2013). Open Government Initiatives: Challenges of Citizen Participation. *Journal of Policy Analysis and Management, 32*(1), 172-185. doi: 10.1002/pam.21651

Fox, William, & Sullivan, Patrick. (1978). Fiscal Impacts of Changes in Population for Nonmetropolitan Areas of the Northeast. *Journal of the Northeast Agricultural Economics Council, 7*(1), 41-46.

Franklin, Aimee L., & Ebdon, Carol. (2005). Are we All Touching the Same Camel?: Exploring a Model of Participation in Budgeting. *The American Review of Public Administration, 35*(2), 168-185. doi: 10.1177/0275074005275621

Franklin, Aimee L., Ho, Alfred T., & Ebdon, Carol. (2009). Participatory Budgeting in Midwestern States: Democratic Connection or Citizen Disconnection? *Public Budgeting & Finance, 29*(3), 52-73. doi: 10.1111/j.1540-5850.2009.00936.x

Frederickson, H. George, Johnson, Gary A., & Wood, Curtis H. (2004). *The adapted city : institutional dynamics and structural change*. Armonk, N.Y.: M.E. Sharpe.

Frederickson, H.G., & Smith, K.B. (2003). *The Public Administration Theory Primer*: Westview Press.

Fudge, Marc. (2014). The Varied and Diverse Predictors of Local Government Bankruptcy, *PA TIMES*.

Garcia-Sanchez, Isabel M., Mordan, Noemi, & Prado-Lorenzo, Jose Manuel. (2012). Effect of the Political System on Local Financial Condition: Empirical Evidence for Spain's Largest Municipalities. *Public Budgeting & Finance, 32*(2), 40-68. doi: 10.1111/j.1540-5850.2011.00986.x

Gibson, James L., Caldeira, Gregory A., & Spence, Lester Kenyatta. (2005). Why Do People Accept Public Policies They Oppose? Testing Legitimacy Theory with a Survey-Based Experiment. *Political Research Quarterly, 58*(2), 187-201. doi: 10.1177/106591290505800201

Glaser, Mark A., & Hildreth, W. Bartley. (1999). Service Delivery Satisfaction and Willingness to Pay Taxes: Citizen Recognition of Local Government Performance. *Public Productivity & Management Review, 23*(1), 48-67. doi: 10.2307/3380792

Glassberg, Andrew. (1981). The Urban Fiscal Crisis Becomes Routine. *Public Administration Review, 41*, 165-172. doi: 10.2307/975460

Godwin, Marcia L. (2014). Civic Engagement and Fiscal Stress in American Cities: Insights from the Great Recession. *State and Local Government Review, 46*(4), 249-259. doi: 10.1177/0160323x14562965

Gold, Steven D. (1992). The Federal Role in State Fiscal Stress. *Publius: The Journal of Federalism, 22*(3), 33-47.

Governing Data. (2014). Bankrupt Cities, Municipalities List and Map. Governing.

Greene, William. (2011). *Econometric Analysis*: Pearson Education.

Greenhalgh, Leonard, & McKersie, Robert. (1980). Reduction in Force: Cost Effectiveness of Alternative Strategies. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Grizzle, Gloria A., & Pettijohn, Carole D. (2002). Implementing Performance-Based Program Budgeting: A System-Dynamics Perspective. *Public Administration Review, 62*(1), 51-62. doi: 10.2307/3110282

Grusky, David, Western, Bruce, & Wimer, Christopher. (2011). *The Great Recession*: Russell Sage Foundation.

Guo, Hai, & Neshkova, Milena I. (2013). Citizen Input in the Budget Process: When Does It Matter Most? *The American Review of Public Administration, 43*(3), 331-346. doi: 10.1177/0275074012443588

Halvorsen, Kathleen E. (2003). Assessing the Effects of Public Participation. *Public Administration Review, 63*(5), 535-543. doi: 10.1111/1540-6210.00317

Handley, Donna Milam, & Howell-Moroney, Michael. (2010). Ordering Stakeholder Relationships and Citizen Participation: Evidence from the Community Development Block Grant Program. *Public Administration Review, 70*(4), 601-609. doi:

10.1111/j.1540-6210.2010.02181.x

Hauge, Wenche, & Ellingsen, Tanja. (1998). Beyond Environmental Scarcity: Causal Pathways to Conflict. *Journal of Peace Research, 35*(3), 299-317. doi: 10.1177/0022343398035003003

Hembree, Holly, & Shelton, Michael. (1999). Benchmarking and Local Government Reserve Funds: Theory versus Practice. *Public Management (00333611), 81*(9), 16.

Hendrick, Rebecca, & Crawford, Jared. (2014). Municipal Fiscal Policy Space and Fiscal Structure: Tools for Managing Spending Volatility. *Public Budgeting & Finance, 34*(3), 24-50. doi: 10.1111/pbaf.12042

Hendrick, Rebecca. (1998). The Impact of Federal Grants and Other Funds on General Fund Expenditure Decisions: A Detailed Analysis of One City. *Journal of Public Administration Research and Theory, 8*(3), 353-390.

Hendrick, Rebecca. (2011). *Managing the fiscal metropolis : the financial policies, practices, and health of suburban municipalities*. Washington, D.C.: Georgetown University Press.

Hicks, Nancy. (2011). Property tax rates going up by 1.47 percent, *Government & Politics*.

Hirsch, Barry T., & MacPherson, David A. (2010). *Union Membership and Coverage Database*. Retrieved from: http://www.unionstats.com/

Ho, Alfred T. (2006). Accounting for the Value of Performance Measurement from the Perspective of Midwestern Mayors. *Journal of Public Administration Research and*

Theory, 16(2), 217-237. doi: 10.1093/jopart/mui046

Ho, Alfred T., & Coates, Paul. (2002). Citizen Participation: Legitimizing Performance Measurement as a Decision Tool. *Government Finance Review, 18*(2), 8-10.

Hoene, Christopher, & Pagano, Michael. (2009). City Fiscal Conditions in 2009: National League of Cities.

Hoene, Christopher, & Pagano, Michael. (2010). City Fiscal Conditions in 2010: National League of Cities.

Hoene, Christopher, & Pagano, Michael. (2011). City Fiscal Conditions in 2011: National League of Cities.

Honadle, B.W., Cigler, B.A., & Costa, J.M. (2004). *The Fiscal Health of Local Governments: An Introduction to Concepts, Practical Analysis and Strategies*: Elsevier Science & Technology Books.

Hoppe, Rick. (2014). Building Public Confidence in Lincoln, Nebraska. *Government Finance Review*(June), 19-24.

Horton, Raymond D. (1987). Expenditures, Services, and Public Management. *Public Administration Review, 47*(5), 378-384. doi: 10.2307/976062

Huddleston, Jack. (2005). An Instroduction to Local Government Budgets: A Guide for Planners: Lincoln Institute of Land Policy.

ICMA (2009). State of the Profession 2009. International City/County Management Association (ICMA)

ICMA. (2011). Municipal Form of Government. International City/County Management Association (ICMA)

Ingraham, Patricia W., & Barrilleaux, Charles. (1983). Motivating Government Managers for Retrenchment: Some Possible Lessons from the Senior Executive Service. *Public Administration Review, 43*(5), 393-402. doi: 10.2307/975846

Irland, Lloyd C. (1975). Citizen Participation-A Tool for Conflict Management On the Public Lands. *Public Administration Review, 35*(3), 263-269.

Irvin, Renée A., & Stansbury, John. (2004). Citizen Participation in Decision Making: Is It Worth the Effort? *Public Administration Review, 64*(1), 55-65. doi: 10.1111/j.1540-6210.2004.00346.x

Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (Vol. 72). Thousand Oaks, CA: Sage Publications, Inc.

Jacob, Benoy, & Hendrick, Rebecca. (2012). Assessing the Financial Condition of Local Governments: What Is Financial Condition and How Is It Measured? In H. Levine, E. Scorsone & J. Justice (Eds.), *Handbook of Local Government Fiscal Health*: Jones & Bartlett Learning.

Jargowsky, P. A. (2003). Stunning Progress, Hidden Problems: The Dramatic Decline of Concentrated Poverty in the 1990s. In B. Katz & R. Lang (Eds.), *Redefining urban and suburban America : evidence from Census 2000* (pp. v.). Washington, D.C.: Brookings Institution Press.

Jimenez, Benedict S. (2012). Strategic Planning and the Fiscal Performance of City Governments during the Great Recession. *The American Review of Public Administration*. doi: 10.1177/0275074012451051

Jimenez, Benedict S. (2014). Raise Taxes, Cut Services, or Lay Off Staff: Citizens in the Fiscal Retrenchment Process. *Journal of Public Administration Research and Theory, 24*(4), 923-953. doi: 10.1093/jopart/mut018

Justice, Jonathan, & Scorsone, Eric. (2012). Measuring and Predicting Local Government Fiscal Stress. In H. Levine, E. Scorsone & J. Justice (Eds.), *Handbook of Local Government Fiscal Health*: Jones & Bartlett Learning.

Kathlene, Lyn, & Martin, John A. (1991). Enhancing citizen participation: Panel designs, perspectives, and policy formation. *Journal of Policy Analysis and Management, 10*(1), 46-63. doi: 10.2307/3325512

Keller, Ann C. (2010). Credibility and Relevance in Environmental Policy: Measuring Strategies and Performance among Science Assessment Organizations. *Journal of Public Administration Research and Theory, 20*(2), 357-386. doi: 10.1093/jopart/mup001

Kiefer, Tina, Hartley, Jean, Conway, Neil, & Briner, Rob B. (2014). Feeling the Squeeze: Public Employees' Experiences of Cutback- and Innovation-Related Organizational Changes Following a National Announcement of Budget Reductions. *Journal of Public Administration Research and Theory*. doi: 10.1093/jopart/muu042

Kiel, L. Douglas. (1993). Nonlinear Dynamical Analysis: Assessing Systems Concepts in a

Government Agency. *Public Administration Review, 53*(2), 143-153. doi: 10.2307/976707

Kim, Soojin, & Schachter, Hindy. (2013). Citizen Participation in the Budget Process and Local Government Accountability. *Public Performance & Management Review, 36*(3), 456-471. doi: 10.2753/PMR1530-9576360304

Kim, Soonhee, & Lee, Jooho. (2012). E-Participation, Transparency, and Trust in Local Government. *Public Administration Review, 72*(6), 819-828. doi: 10.1111/j.1540-6210.2012.02593.x

Kloha, Philip, Weissert, Carol S., & Kleine, Robert. (2005). Developing and Testing a Composite Model to Predict Local Fiscal Distress. *Public Administration Review, 65*(3), 313-323. doi: 10.1111/j.1540-6210.2005.00456.x

Koontz, Tomas M. (1999). Administrators and Citizens: Measuring Agency Officials' Efforts to Foster and Use Public Input in Forest Policy. *Journal of Public Administration Research and Theory, 9*(2), 251-280.

Koubi, Vally, Spilker, Gabriele, Böhmelt, Tobias, & Bernauer, Thomas. (2014). Do natural resources matter for interstate and intrastate armed conflict? *Journal of Peace Research, 51*(2), 227-243. doi: 10.1177/0022343313493455

Krishnakumar, Jaya, Martin, Marc-Jean, & Soguel, Nils. (2010). Explaining Fiscal Balances with a Simultaneous Equation Model of Revenue and Expenditure: A Case Study of Swiss Cantons Using Panel Data. *Public Budgeting & Finance, 30*(2), 69-94. doi: 10.1111/j.1540-5850.2010.00957.x

Kweit, M.G., & Kweit, R.W. (1981). *Implementing citizen participation in a bureaucratic society: a contingency approach*: Praeger.

Ladd, Helen F. (1991). The State Aid Decision: Changes in State Aid to Local Governments, 1982-87. *National Tax Journal, 44*(4), 477-496. doi: 10.2307/41788935

Ladd, Helen F., & Yinger, John. (1989). *America's ailing cities : fiscal health and the design of urban policy*. Baltimore: Johns Hopkins University Press.

Ladd, Helen F., & Wilson, Julie Boatright. (1982). Why Voters Support Tax Limitations: Evidence from Massachusetts' Proposition 2-1/2. *National Tax Journal, 35*(2), 121-148.

Lawton, Alan, & Macaulay, Michael. (2014). Localism in Practice: Investigating Citizen Participation and Good Governance in Local Government Standards of Conduct. *Public Administration Review, 74*(1), 75-83. doi: 10.1111/puar.12161

Levine, Charles, & Rubin, Irene. (1980). *Fiscal Stress and Public Policy*: SAGE Publications.

Levine, Charles, Rubin, Irene, & Wolohojian, George. (1981). *The Politics of Retrenchment: How Local Governments Manage Fiscal Stress*: SAGE Publications.

Levine, Charles, Rubin, Irene, & Wolohojian, George. (1981a). Resource Scarcity and the Reform Model: The Management of Retrenchment in Cincinnati and Oakland. *Public Administration Review, 41*(6), 619-628. doi: 10.2307/975737

Levine, Charles. (1978). Organizational Decline and Cutback Management. *Public Administration Review, 38*(4), 316-325. doi: 10.2307/975813

Levine, Charles. (1980). *Managing fiscal stress: the crisis in the public sector*: Chatham House Publishers.

Lewis, Carol, & Hildreth, Bartley. (2013). *Budgeting: Politics and Power*. Oxfort University Press.

Lewis, Carol, & Mello, Joseph. (2009). Coping with Crisis: Budgeting in Recession by Large U.S. Cities. *Government Finance Review, December*.

Lewis, Gregory B. (1984). Municipal Expenditures through Thick and Thin. *Publius, 14*(2), 31-39. doi: 10.2307/3330102

Lin, Wenshan, & Raman, K. K. (1998). The housing value-relevance of governmental accounting information. *Journal of Accounting and Public Policy, 17*(2), 91-118.

Lynch, Sharon. (2008). Metro U.S. Home Prices Fall on Higher Foreclosures, *Bloomberg*.

MacKinnon, David. (2008). *Introduction to Statistical Mediation Analysis*: Lawrence Erlbaum Associates.

Maher, Craig, & Deller, Steven C. (2007). Municipal Responses to Fiscal Stress. *International Journal of Public Administration, 30*(12-14), 1549-1572. doi: 10.1080/01900690701230184

Maher, Craig, & Deller, Steven. (2013). Assessing the Relationship Between Objective and Subjective Measures of Fiscal Condition Using Government-Wide Statements. *Public Budgeting & Finance, 33*(3), 115-136. doi: 10.1111/j.1540-5850.2013.12017.x

Maher, Craig. (2013). Measuring Financial Condition: An Essential Element of Management

During Periods of Fiscal Stress. *The Journal of Government Financial Management, 62*(1), 20-25.

Marlowe, Justin, & Portillo, Shannon. (2006). Citizen Engagement in Local Budgeting: Does Diversity Pay Dividends? *Public Performance & Management Review, 30*(2), 179-202. doi: 10.2753/PMR1530-9576300203

Martell, Christine R., & Kravchuk, Robert S. (2012). The Liquidity Crisis: The 2007–2009 Market Impacts on Municipal Securities. *Public Administration Review, 72*(5), 668-677. doi: 10.1111/j.1540-6210.2012.02564.x

Martin, Lawrence L., Levey, Richard, & Cawley, Jenna. (2012). The "New Normal" for Local Government. *State and Local Government Review, 44*(1 suppl), 17S-28S. doi: 10.1177/0160323x12440103

Maxwell, John W., & Reuveny, Rafael. (2000). Resource Scarcity and Conflict in Developing Countries. *Journal of Peace Research, 37*(3), 301-322. doi: 10.1177/0022343300037003002

McFarland, Christiana, & Pagano, Michael. (2014). City Fiscal Conditions. National League of Cities: Center for City Solutions and Applied Research.

Mikesell, John L. (2007). *Fiscal administration : analysis and applications for the public sector* (7th ed.). Belont, CA: Thomson Wadsworth.

Miller, Gerald J., & Evers, Lyn. (2002). Budgeting Structures and Citizen Participation. Journal of Public Budgeting, Accounting & Financial Management, 14(2), 233-272.

Miller, Thomas I., & Miller, Michelle A. (1991). Standards of excellence: U.S. residents' evaluations of local government services. *Public Administration Review, 51*(6), 503.

Morgan, David R., & Pammer, William J. (1988). Coping with Fiscal Stress: Predicting the Use of Financial Management Practices among U.S. Cities. *Urban Affairs Review, 24*(1), 69-86. doi: 10.1177/004208168802400105

Morgan, David R., & Pelissero, John P. (1980). Urban Policy: Does Political Structure Matter? *The American Political Science Review, 74*(4), 999-1006. doi: 10.2307/1954319

Morgan, David R., England, Robert E., & Pelissero, John P. (2007). *Managing urban America* (6th ed.). Washington, DC: CQ Press.

Morrison, Charles. (1980). Identifying Alternative Resources for Local Government. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Mortgage Bankers Association (2010) Nation Delinquency Survey.

Moynihan, Donald P. (2003). Normative and Instrumental Perspectives on Public Participation: Citizen Summits in Washington, D.C. *The American Review of Public Administration, 33*(2), 164-188. doi: 10.1177/0275074003251379

Moynihan, Donald P., & Pandey, Sanjay K. (2010). The Big Question for Performance Management: Why Do Managers Use Performance Information? *Journal of Public Administration Research and Theory, 20*(4), 849-866. doi: 10.1093/jopart/muq004

Mullins, Daniel R. (2004). Tax and Expenditure Limitations and the Fiscal Response of

Local Government: Asymmetric Intra-Local Fiscal Effects. *Public Budgeting & Finance, 24*(4), 111-147. doi: 10.1111/j.0275-1100.2004.00350.x

Mushkin, Selma, & Vehorn, Charles. (1980). User Fees and Charges. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Nelson, Kimberly, & Maher, Craig. (2014). *Does Form of Government Affect Municipal Fiscal Condition?* Paper presented at the American Society for Public Administration, Washington D.C.

Nelson, Kimberly, & Svara, James. (2012). Form of Government Still Matters: Fostering Innovation in U.S. Municipal Governments. *The American Review of Public Administration, 42*(3), 257-281. doi: 10.1177/0275074011399898

Nelson, Kimberly. (2012). Municipal Choices during a Recession: Bounded Rationality and Innovation. *State and Local Government Review, 44*(1 suppl), 44S-63S. doi: 10.1177/0160323x12452888

Neshkova, Milena I. (2014). Does Agency Autonomy Foster Public Participation? *Public Administration Review, 74*(1), 64-74. doi: 10.1111/puar.12180

Neshkova, Milena I., & Guo, Hai. (2012). Public Participation and Organizational Performance: Evidence from State Agencies. *Journal of Public Administration Research and Theory, 22*(2), 267-288. doi: 10.1093/jopart/mur038

O'Rourke, Dara, & Macey, Gregg P. (2003). Community environmental policing: Assessing

new strategies of public participation in environmental regulation. *Journal of Policy Analysis and Management, 22*(3), 383-414. doi: 10.1002/pam.10138

Pagano, Michael A., & Moore, Richard J. (1985). *Cities and fiscal choices : a new model of urban public investment*. Durham: Duke University Press.

Pagano, Michael, & Hoene, Christopher. (2008). City Fiscal Conditions in 2008: National League of Cities.

Pagano, Michael, Hoene, Christopher, & McFarland, Christiana. (2012). City Fiscal Conditions in 2012: National League of Cities.

Pammer, William. (1990). *Managing Fiscal Strain in Major American Cities: Understanding Retrenchment in the Public Sector*: Greenwood Press.

Pandey, Sanjay K. (2010). Cutback Management and the Paradox of Publicness. *Public Administration Review, 70*(4), 564-571. doi: 10.2307/40802233

Peters, B.G. (2005). *Institutional Theory in Political Science: 2nd Edition*: Bloomsbury Academic.

Peters, Guy, & Rose, Richard. (1980). The Growth of Government and the Political Consequences of Economic Overload. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Piotrowski, Suzanne J., & Van Ryzin, Gregg G. (2007). Citizen Attitudes Toward Transparency in Local Government. *The American Review of Public Administration,*

37(3), 306-323. doi: 10.1177/0275074006296777

Pitts, David W., Hicklin, Alisa K., Hawes, Daniel P., & Melton, Erin. (2010). What Drives the Implementation of Diversity Management Programs? Evidence from Public Organizations. *Journal of Public Administration Research and Theory, 20*(4), 867-886. doi: 10.1093/jopart/mup044

Plerhoples, Christina, & Scorsone, Eric. (2012). Fiscal Stress and Cutback Management Among State and Local Governments: What Have We Learned and What Remains to Be Learned? In H. Levine, E. Scorsone & J. Justice (Eds.), *Handbook of Local Government Fiscal Health*: Jones & Bartlett Learning.

Poister, Theodore H., & Streib, Gregory. (2005). Elements of Strategic Planning and Management in Municipal Government: Status after Two Decades. *Public Administration Review, 65*(1), 45-56. doi: 10.1111/j.1540-6210.2005.00429.x

Raju, Swati. (2011). Analyzing the Fiscal Health of State Governments in India: Evidence from the 14 Major States. *Public Budgeting & Finance, 31*(3), 49-72. doi: 10.1111/j.1540-5850.2011.00987.x

Reck, Jacqueline, Lowensohn, Suzanne, & Wilson, Earl. (2012). *Accounting for Governmental and Nonprofit Entities*: McGraw-Hill.

Redford, Emmette. (1969). *Democracy in the Administrative State*: Oxford University Press.

Reed, Chuck. (2014). The Secret to Making Tough Fiscal Choices: Open Government, *Governing*.

Riedel, James A. (1972). Citizen Participation: Myths and Realities. *Public Administration Review, 32*(3), 211-220. doi: 10.2307/975275

Ripley, Randall, Franklin, Grace, Holmes, Willam, & Moreland, William. (1982). Structure, Environment, and Policy Actions: An Empirical Exploration. In R. Ripley & G. Franklin (Eds.), *Bureaucracy and policy implementation*: Dorsey Press.

Rivenbark, William C., & Roenigk, Dale J. (2011). Implementation of Financial Condition Analysis in Local Government. *Public Administration Quarterly, 35*(2), 241-267. doi: 10.2307/41506755

Robbins, Mark D., Simonsen, Bill, & Feldman, Barry. (2008). Citizens and Resource Allocation: Improving Decision Making with Interactive Web-Based Citizen Participation. *Public Administration Review, 68*(3), 564-575. doi: 10.1111/j.1540-6210.2008.00891.x

Roberts, Alasdair. (2004). A Partial Revolution: The Diplomatic Ethos and Transparency in Intergovernmental Organizations. *Public Administration Review, 64*(4), 410-424. doi: 10.1111/j.1540-6210.2004.00388.x

Rosenbloom, David H. (2013). Reflections on "Public Administrative Theory and the Separation of Powers". *The American Review of Public Administration, 43*(4), 381-396. doi: 10.1177/0275074013483167

Rubin, Irene. (1980). Universities in Stress: Decision Making Under Conditions of Reduced Resources. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Ryu, Jay Eungha, Bowling, Cynthia J., Cho, Chung-Lae, & Wright, Deil S. (2008). Exploring Explanations of State Agency Budgets: Institutional Budget Actors or Exogenous Environment? *Public Budgeting & Finance, 28*(3), 23-47. doi: 10.1111/j.1540-5850.2008.00909.x

Saintamour, William, & Huggler, Tom. (2010). Back to the Base: Citizen Involvement and the Budget Process. *Government Finance Review, October*, 33-42.

Schachter, Hindy Lauer. (1983). Retroactive Seniority and Agency Retrenchment. *Public Administration Review, 43*(1), 77-81. doi: 10.2307/975303

Schick, Allen. (1983). Incremental budgeting in a decremental age. *Policy Sciences, 16*(1), 1-25. doi: 10.1007/BF00138465

Schmidt, Vivien A. (2013). Democracy and Legitimacy in the European Union Revisited: Input, Output and 'Throughput'. *Political Studies, 61*(1), 2-22. doi: 10.1111/j.1467-9248.2012.00962.x

Schwartz, Robert, & Sulitzeanu-Kenan, Raanan. (2004). Managerial Values and Accountability Pressures: Challenges of Crisis and Disaster. *Journal of Public Administration Research and Theory, 14*(1), 79-102. doi: 10.1093/jopart/muh005

Scorsone, Eric, Levine, Helisse, & Justice, Jonathan. (2012). Instroduction. In H. Levine, E. Scorsone & J. Justice (Eds.), *Handbook of Local Government Fiscal Health*: Jones & Bartlett Learning.

Selden, Sally Coleman. (1997). Representative Bureaucracy: Examining the Linkage

between Passive and Active Representation in the Farmers Home Administration. *The American Review of Public Administration, 27*(1), 22-42. doi: 10.1177/027507409702700103

Serra, George. (1995). Citizen-Initiated Contact and Satisfaction With Bureaucracy: A Multivariate Analysis. *Journal of Public Administration Research and Theory, 5*(2), 175-188.

Simon, Herbert A. (1997). *Administrative behavior : a study of decision-making processes in administrative organizations* (4th ed.). New York: Free Press.

Simonsen, Bill, & Robbins, Mark D. (2003). Reasonableness, Satisfaction, and Willingness to Pay Property Taxes. *Urban Affairs Review, 38*(6), 831-854. doi: 10.1177/1078087403038006004

Simonsen, W., & Robbins, M.D. (2000). *Citizen Participation in Resource Allocation*: Westview Press.

Sosin, Michael R. (2012). Decentralization, Devolution, Financial Shortfalls, and State Priorities in Service Programs in the Early 2000s. *Journal of Public Administration Research and Theory: J-PART, 22*(4), 701-730. doi: 10.2307/23321339

Stazyk, Edmund C., & Goerdel, Holly T. (2011). The Benefits of Bureaucracy: Public Managers' Perceptions of Political Support, Goal Ambiguity, and Organizational Effectiveness. *Journal of Public Administration Research and Theory, 21*(4), 645-672. doi: 10.1093/jopart/muq047

Stock, James H., & Watson, Mark W. (2007). *Introduction to econometrics* (2nd ed.). Boston: Pearson/Addison Wesley.

Thomas, J.C. (2012). *Citizen, Customer, Partner: Engaging the Public in Public Management*: M. E. Sharpe Incorporated.

Thomas, John Clayton. (1995). *Public participation in public decisions : new skills and strategies for public managers* (1st ed.). San Francisco: Jossey-Bass Publishers.

Thurmaier, Kurt. (1995). Decisive Decision Making in the Executive Budget Process: Analyzing the Political and Economic Propensities of Central Budget Bureau Analysts. *Public Administration Review, 55*(5), 448-460. doi: 10.2307/976769

U.S. Census of Bureau. (2015). The American Community Survey.

Vigoda, Eran. (2002). Administrative Agents of Democracy? A Structural Equation Modeling of the Relationship between Public-Sector Performance and Citizenship Involvement. *Journal of Public Administration Research and Theory, 12*(2), 241-272.

Walker, David. (1980). The New System of Intergovernmental Relations: More Fiscal Relief and More Governmental Instructions. In C. Levine (Ed.), *Managing fiscal stress: the crisis in the public sector* (pp. 123-136). Chatham, New Jersey: Chatham House Publishers.

Walters, Lawrence C., Aydelotte, James, & Miller, Jessica. (2000). Putting More Public in Policy Analysis. *Public Administration Review, 60*(4), 349-359. doi: 10.2307/3110455

Wang, XiaoHu, & Wan Wart, Montgomery. (2007). When Public Participation in

Administration Leads to Trust: An Empirical Assessment of Managers' Perceptions. *Public Administration Review, 67*(2), 265-278. doi: 10.1111/j.1540-6210.2007.00712.x

Wang, Xiaohu, Dennis, Lynda, & Tu, Yuan Sen. (2007). Measuring Financial Condition: A Study of U.S. States. *Public Budgeting & Finance, 27*(2), 1-21. doi: 10.1111/j.1540-5850.2007.00872.x

Warner, Mildred. (1999). Local Government Financial Capacity and the Growing Importance of State Aid. *Rural Development Perspectives, 13*(3), 27-36.

Welch, Susan. (1985). The "More for Less" Paradox: Public Attitudes on Taxing and Spending. *The Public Opinion Quarterly, 49*(3), 310-316. doi: 10.2307/2748642

Wichowsky, Amber, & Moynihan, Donald P. (2008). Measuring How Administration Shapes Citizenship: A Policy Feedback Perspective on Performance Management. *Public Administration Review, 68*(5), 908-920. doi: 10.1111/j.1540-6210.2008.00931.x

Wildavsky, Aaron. (1984). *Politics of the Budgetary Process*: Little Brown.

Wolman, Harold, & Davis, Barbara. (1980). Local Government Strategies to Cope With Fiscal Pressure. In C. Levine & I. Rubin (Eds.), *Fiscal Stress and Public Policy*: SAGE Publications.

Wolman, Harold, & Goldsmith, Michael. (1990). Localautonomy as a Meaningful Analytic Concept: Comparing Local Government in the United States and the United Kingdom. *Urban Affairs Review, 26*(1), 3-27. doi: 10.1177/004208169002600101

Wolman, Harold, McManmon, Robert, Bell, Michael, & Brunori, David. (2010). Comparing local government autonomy across states. In M. E. Bell, D. Brunori & J. M. Youngman (Eds.), *The property tax and local autonomy*. Cambridge: Lincoln Institute of Land Policy.

Wood, Curtis. (2011). Municipal Discretion During the Great Recession. *Government Finance Review, April*, 49-56.

Woolum, Janet. (2011). Citizen Involvement in Performance Measurement and Reporting. *Public Performance & Management Review, 35*(1), 79-102. doi: 10.2753/PMR1530-9576350104

Wu, Hsueh-Sheng. (2011). How to Model Mediating and Moderating Effects: Center for Family and Demographic Research.

Yang, Kaifeng, & Callahan, Kathe. (2007). Citizen Involvement Efforts and Bureaucratic Responsiveness: Participatory Values, Stakeholder Pressures, and Administrative Practicality. *Public Administration Review, 67*(2), 249-264. doi: 10.1111/j.1540-6210.2007.00711.x

Yang, Kaifeng, & Pandey, Sanjay K. (2011). Further Dissecting the Black Box of Citizen Participation: When Does Citizen Involvement Lead to Good Outcomes? *Public Administration Review, 71*(6), 880-892. doi: 10.1111/j.1540-6210.2011.02417.x

Zhang, Yahong, & Liao, Yuguo. (2011). Participatory Budgeting in Local Government. *Public Performance & Management Review, 35*(2), 281-302.

Appendix A

Table Ⅰ Two stage least square (2SLS) estimating method for the fiscal retrenchment model

Variables	Fiscal Retrenchment Composition (2SLS Regression)
Citizen Involvement	.076**
	(.033)
2008 Unreserved Fund Balance	-.068
	(.046)
2008 General Fund Ratio	-.029
	(.063)
2008 Net Asset Ratio	.066
	(.116)
2008 Unrestricted Asset Ratio	-.060
	(.039)
2008 Long-term Liability	-.041
	(.080)
The Great Recession Effect	.146***
	(.019)
2008 Intergovernmental Revenue	.081
	(.094)
Non-elected Form	.032
	(.035)
Code of Ethics	.066**
	(.032)
Racial Diversity	-.001
	(.001)
Political Conflicts	-.021
	(.013)
Union Coverage	-.000
	(.001)
Population (log)	.092**
	(.034)
Income (log)	.397**
	(.156)
Education Attainment	-.002
	(.002)
Elder Population	-.007**
	(.003)
Local Autonomy	-.062
	(.054)
TELs Index	-.003
	(.002)
Government Type	.097**
	(.044)
Constant	-.345
	(.532)
R^2 / Pseudo R^2	0.139
F	7.49
N	947

** p < 10, ** p < 05, *** p < 01*

Appendix B

Figure Ⅰ The predictive margins of citizen participation in the unreserved fund balance model

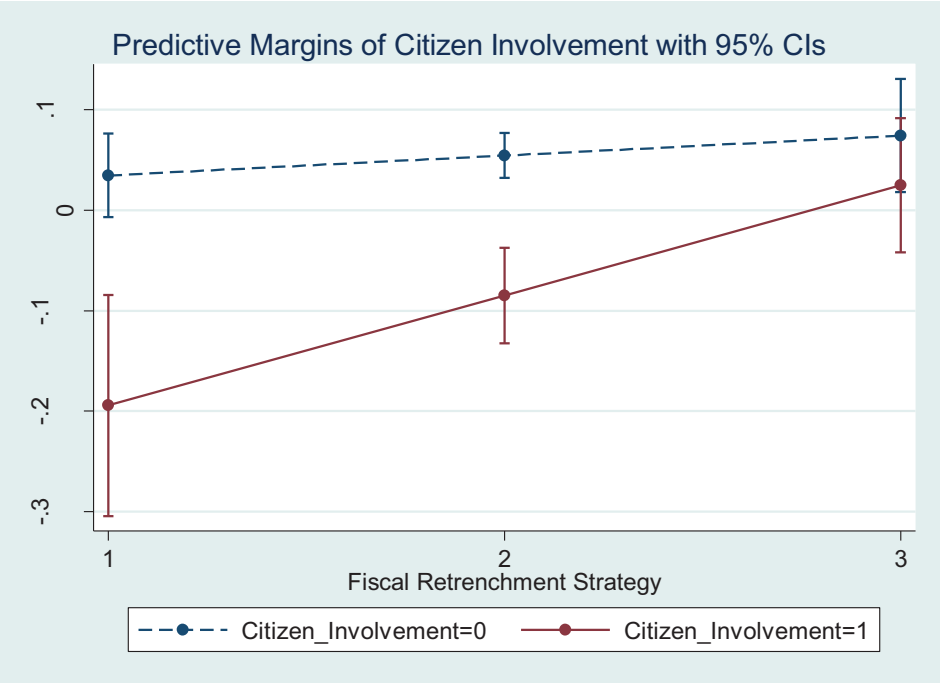


Figure Ⅱ The predictive margins of citizen participation in the general fund balance model

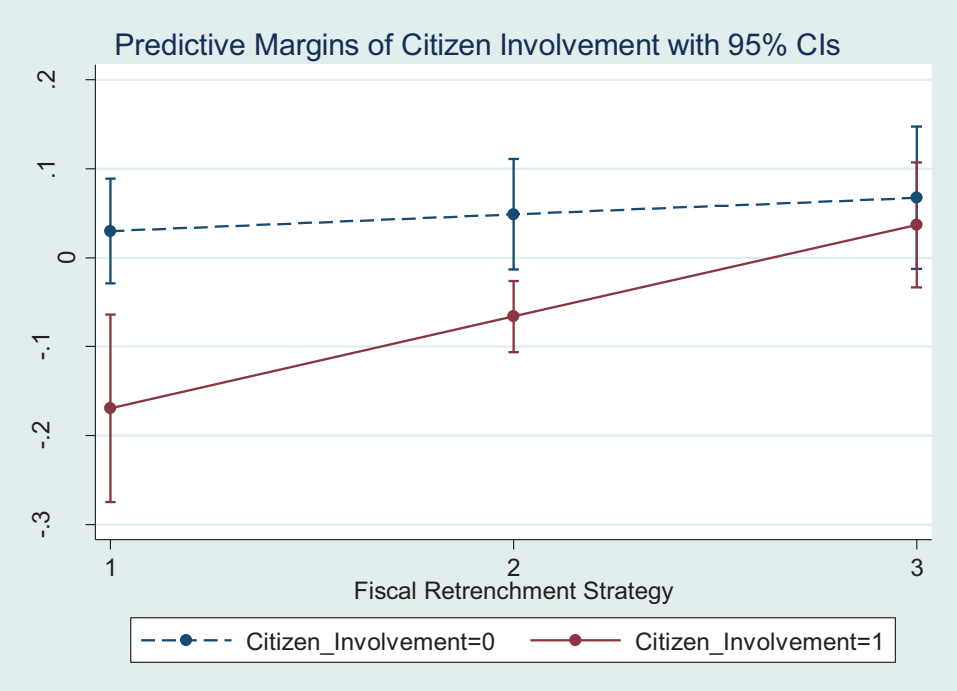


Figure Ⅲ The predictive margins of citizen participation in the net asset model

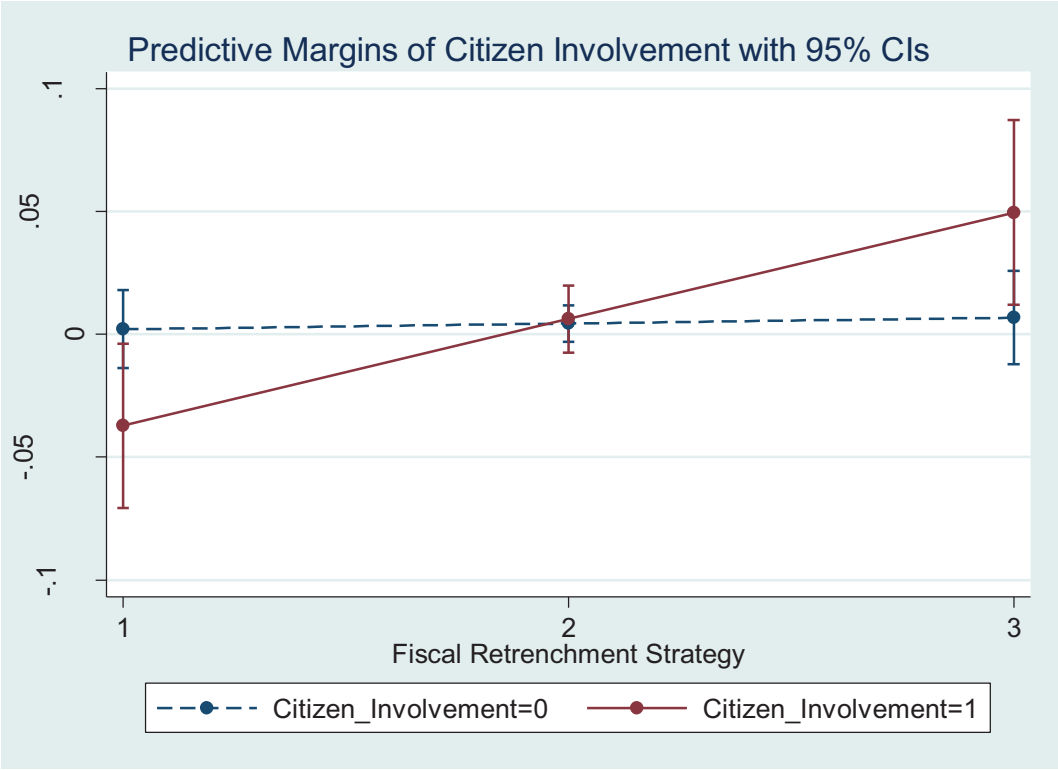


Figure Ⅳ The predictive margins of citizen participation in the unrestricted asset model

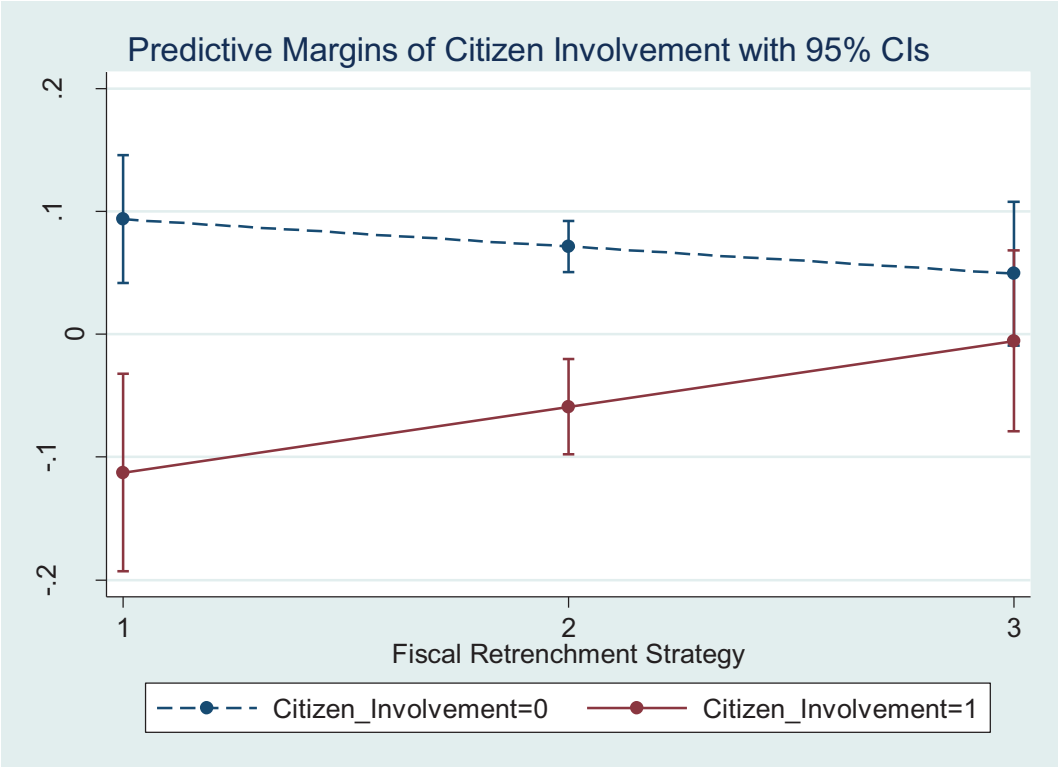


Figure Ⅴ The predictive margins of citizen participation in the long-term liability model

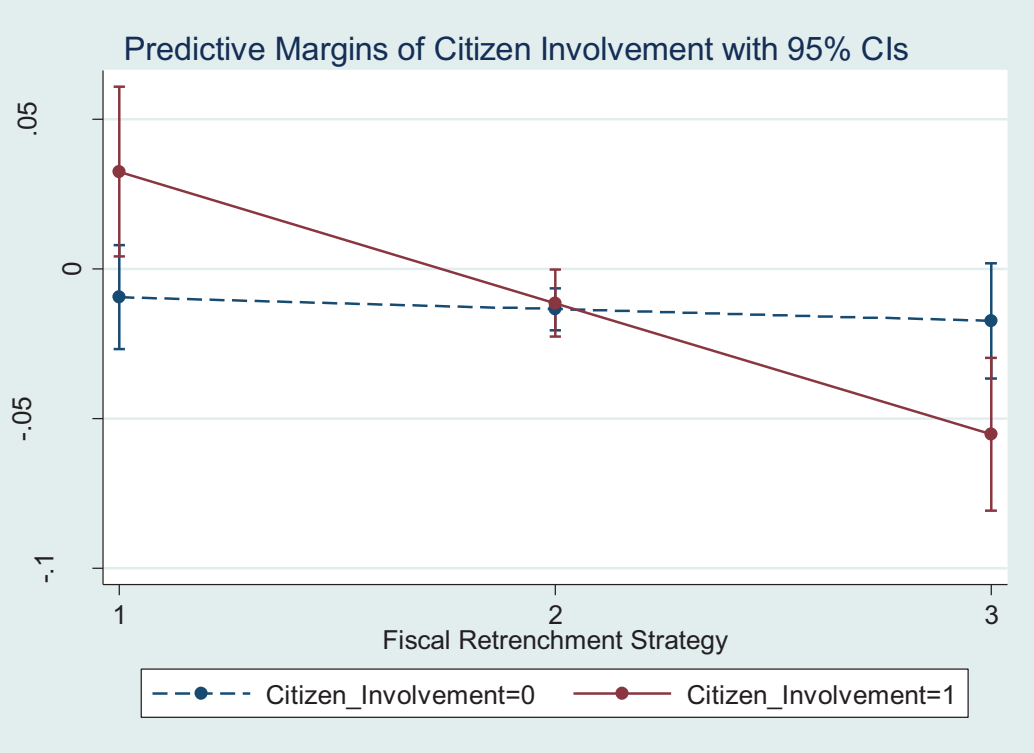


Figure Ⅵ The predictive margins of citizen participation in the Fiscal Index 1 model

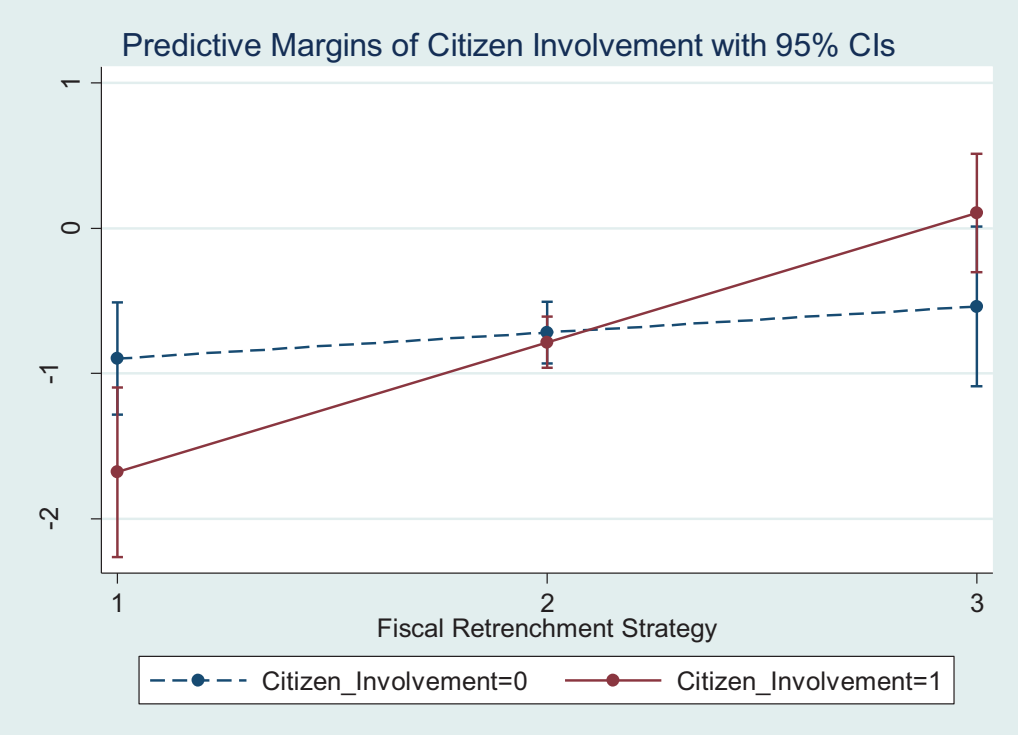


Figure Ⅶ The predictive margins of citizen participation in the Fiscal Index 2 model

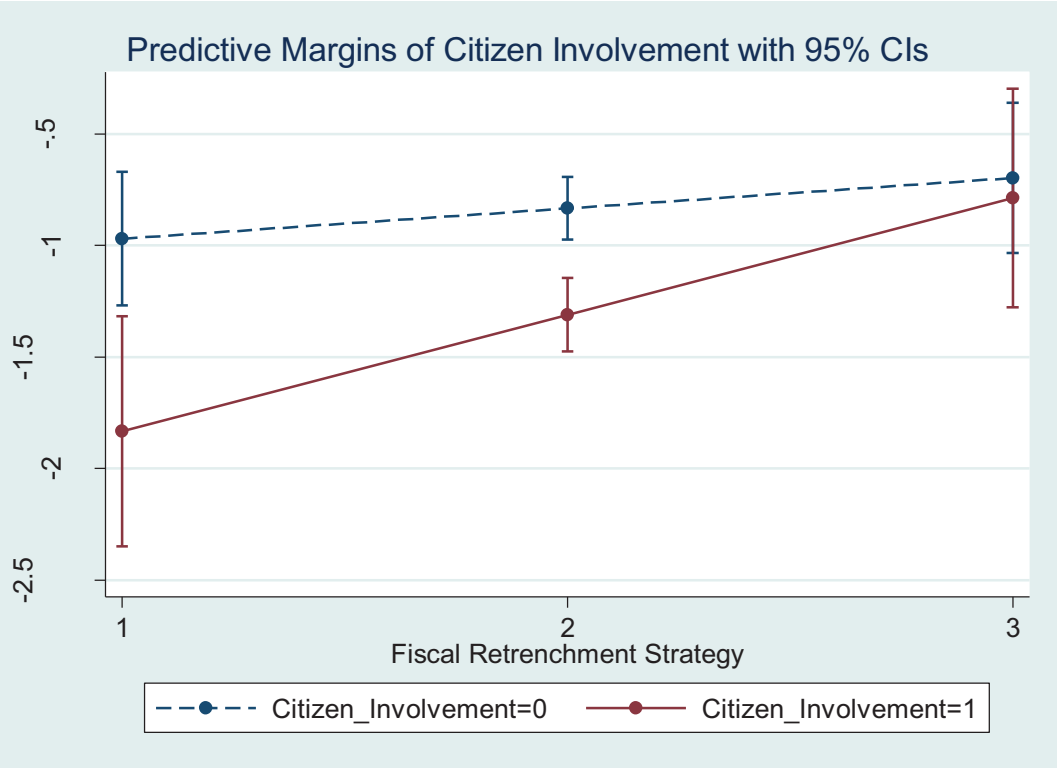


Figure Ⅰ - Ⅶ present the predictive margins of citizen participation for group comparison between local governments with a commitment to citizen participation and without citizen participation in examining the effect of fiscal retrenchment on fiscal recovery. As shown in the figures, local governments without citizen participation tend to have higher fiscal recovery than those with a commitment to citizen participation. This finding is aligned with the result where citizen participation has a negative association with fiscal recovery as shown in Table 5.3.3. It shows that local governments with a commitment to citizen participation might have worse fiscal health than those without citizen participation in 2009 of the Great Recession. The figures allow us to understand the relationship between citizen participation, fiscal retrenchment, and fiscal recovery.

The figures show that citizen participation plays a crucial role in helping local

governments to implement a higher conflict-oriented composition of fiscal retrenchment strategies in recovering fiscal health. This finding means that local governments with a commitment to citizen participation that used a higher conflict-oriented composition of fiscal retrenchment strategies are expected to improve their fiscal health. Although citizen participation itself has a negative association with fiscal recovery, local governments with a commitment to citizen participation are more likely to improve fiscal health by using a higher conflict-oriented composition of fiscal retrenchment strategies. More specifically, the predictive margins for general fund balance, net assets, and long-term liability in local governments without citizen participation are pretty stable. This means that choices of fiscal retrenchment composition may not matter to local governments without citizen participation. Furthermore, the predictive margin for unrestricted net assets decreases as local governments without citizen participation use higher conflict-oriented fiscal retrenchment strategies. The results show citizen participation plays a crucial role in implementing effective fiscal retrenchment strategies to improve fiscal health of local governments. Thus, using the predictive margins of citizen participations, I conclude that citizen participation matters to local governments to implement the composition of fiscal retrenchment strategies in overcoming fiscal health.