HOW DID LOCAL GOVERNMENTS RECOVER THEIR FINANCIAL CONDITION? LESSONS FROM CITIZEN PARTICIPATION

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Abstract

This study offers lessons for overcoming future economic crises by examining whether democratic management helped local governments recover their financial condition. During the Great Recession, local governments were forced to make painful decisions regarding increased taxes and user charges, and cuts in public services. Several case studies provide evidence that citizen participation allows localities to increase property taxes as well as cut public services. However, broader, systematic empirical research is lacking. This study found that local governments with participatory budgeting were more likely to improve their financial condition during the Great Recession. The results allow us to identify the role of citizens in fiscal decision-making, offering lessons on how local governments can overcome possible fiscal crises in the future.

Keywords: fiscal recovery, financial condition, citizen participation, local government, democratic management.

1. Introduction

This study offers lessons for overcoming future economic crises by examining whether democratic management helped local governments recover their financial condition following the Great Recession. We focus on the role of citizen participation in the budgetary process. Fiscal downturns occur regularly, and some are severe. In the post-Great Recession era, many scholars predict that another financial crisis is imminent (Larson, 2019; Ramey, 2019). Thus, the study of financial condition has taken on greater value ever since.

During the Great Recession, local governments were forced to make painful decisions regarding increased taxes and user charges, and cuts in public services (Bozeman, 2010). Undoubtedly, political bodies make these decisions, but scholars argue that government decisions should be legitimated by the public (Schmidt, 2013). Despite that, most studies of the determinants of financial condition emphasize the role of public officials (Pandey, 2010) rather than the public (Bozeman, 2010). Several case studies provide evidence that citizen participation allows localities to increase property taxes as well as cut public services (Saintamour and Huggler 2010; Hoppe, 2014; He and Ma, 2021). However, broader, systematic empirical research is lacking. Studying the relationship between citizen participation and financial condition can begin to fill this gap and offer a new theoretical perspective on financial management.

The Great Recession has had a deeper economic impact than any other economic crisis since the Great Depression of the early 20th century (Martin, Levey and Cawley, 2012). Its causes were also different from previous recessions. Many scholars warn us of another economic crisis after COVID-19 (Banerjee, Kharroubi and Lewrick, 2020; Brenner, 2021), arguing that government intervention delayed bankruptcy filings during COVID-19. However, hyperinflation and high-interest rates can lead homeowners to file for bankruptcies (Heckney and Friesner, 2021). Local governments may face fiscal difficulty if a high foreclosure rate generates the collapse of property and sales tax levies post-COVID-19, leading to painful financial decisions again. Thus, the purpose of this study is to gain an understanding of how local governments can cope with possible financial difficulties by examining the relationship between citizen participation and fiscal recovery.

The next section reviews the relevant literature related to the financial condition, citizen participation in the budget process, and the hypothesized relationship between citizen participation, financial condition, and fiscal recovery. The methodology section then outlines the statistical models and data, followed by the findings section. The final section draws conclusions and implications from the results of the study.

2. Determinants of financial condition

Financial condition is defined as the financial ability to maintain current and future service obligations to creditors, employees, citizens, and suppliers (Berne and Schramm, 1986; Jacob and Hendrick, 2012; McDonald, 2018). It has four components: cash, budgetary, long-term, and service-level solvency (see Chapman and Gorina, 2012; Maher, Ebdon and Bartle, 2020; Wang, Dennis and Tu, 2007).

While there is agreement on the components of financial condition, a wide variety of perspectives have been used to empirically measure it. Some studies use a single measure, others use multi-dimensional measures, and still others use an index to attempt to capture different aspects at once. A single measure only represents a slice of financial condition (Maher, 2013), whereas multi-dimensional measures provide more information, but there are several issues, such as whether financial condition is a relative or absolute concept (Kloha, Weissert and Kleine, 2005); what is the acceptable level of measures to be considered as being in good health (Raju, 2011); which of the components should receive primary attention (e.g., long-term solvency and/or budgetary solvency) (Rivenbark and Roenigk, 2011); and the extent to which financial condition measurement should focus largely on general funds, government funds, or all funds (Jacob and Hendrick, 2012; Maher, Hoang and Hindery, 2020). Some scholars have used an index to capture multiple dimensions of financial condition with a single measure, an approach that allows for clearer conclusions when testing its determinants. However, the issue remains of which dimensions should be included in the index, and the appropriate weighting for the various dimensions is not clear (Maher, 2013; McDonald, 2018).

Three major groups of factors have been found to influence financial condition. Fiscal outputs and outcomes are determined by decision-makers' management choices, which reflect the institutional and financial, and political environments (Hendrick, 2011). First, efficiency-oriented structures and institutions and decentralized institutions may lead to good financial condition. This theory assumes that fiscal outputs and outcomes are constrained to the purposes of current institutions and structures (Nelson and Maher, 2014). Empirical findings show that financial condition is improved by home rule privilege (Hendrick, 2011), audit systems (Aikins, 2011), strategic planning (Shelton and Albee, 2000), and tax and expenditure limitations (TELs) (Nelson and Maher, 2014).

Second, an economic boom may result in good financial condition. Fiscal outputs and outcomes vary depending on changes in the level of financial resources determined by the economic environment (Fox and Sullivan, 1978; Hendrick, 2011). Empirical findings suggest that spending needs and revenue base are factors influencing financial condition. Increased spending needs for public infrastructure are negatively related to financial condition (Fox and Sullivan, 1978). This negative connection extends to revenue bases, such as a high poverty level (Jargowsky, 2003), low per capita income (Ladd and Yinger, 1989), and low population (Hendrick, 2011).

Third, fiscal outputs and outcomes rely on the extent to which decision-makers fully manage the current political environment (Garcia-Sanchez, Mordan and Prado-Lorenzo, 2012). Decision-makers may not concentrate on fiscal efficiency because of political conflict that generates wasteful costs and spillovers (Morgan and Pelissero, 1980). Thus, decision-makers' skills in managing political conflicts may be relevant to maintaining financial conditions (Levine, Rubin and Wolohojian, 1981). The empirical effects of political variables on financial condition are uncertain though; for example, Hendrick (2011) found that nonpartisan elections have a positive, but not statistically significant, association with financial condition.

However, studies of the determinants of financial condition often downplay the role of the management choices that can affect fiscal outputs and outcomes. In the contingency theory framework, decision-makers anticipate different outputs and outcomes by adopting different management choices in response to their environment (Perrow, 1967). In terms of the Great Recession, variations in management choices generated different levels of fiscal recovery across local governments (Fudge, 2014). Recently, scholars have begun to emphasize the relationship between management strategies and financial condition (Jimenez, 2017; Kim and Ryu, 2017). Localities may adopt democratic management to provide citizens with participatory opportunities, expecting to legitimize their decisions and produce desired outputs and outcomes (Schmidt, 2013). However, little is known about how management choices to utilize citizen participation during the Great Recession affected financial condition.

3. The role of citizen participation

Although some studies indicate that citizens allow localities to make painful decisions regarding tax increases and public service cuts (Saintamour and Huggler, 2010; He and Ma, 2021), there is limited research on the relationship between citizen participation and fiscal decisions related to responses to fiscal stress. Fiscal stress may encourage decision-makers to solicit citizen input for painful decisions regarding public service cuts and revenue-raising (Pandey, 2010; Berman, 1997; Zhang and Liao, 2011). Several individual case studies have shown that participatory decisions have contributed to governments being able to implement difficult policies addressing fiscal stress (Hoppe, 2014; Reed, 2014; Saintamour and Huggler, 2010). Overall, though, there is little empirical evidence regarding any effects of citizen participation on decision-making during periods of fiscal stress, and less evidence about the longer-term effects on fiscal recovery.

There are two competing views of citizens that provide insight into the potential effects of citizen participation on fiscal recovery: the rational taxpayer and the free-rider.

The rational taxpayer view is that citizen participation is a mechanism for legitimate government decisions, allowing the public to express their demands and support (Yang and Callahan, 2007; Handley and Howell-Moroney, 2010). For example, obtaining the support of taxpayers to accept increased tax rates can enable governments to improve their financial condition (Simonsen and Robbins, 2003). Citizens can express their willingness to pay additional taxes by understanding government financial difficulty through public hearings and meetings (Ahlbrandt and Sumka, 1983), while citizen participation has been used to legitimate fiscal decisions on new tax policies (Berman, 1997). Several empirical studies have found citizens who participate are willing to pay additional taxes (Welch, 1985; Beck *et al*., 1987; Beck, Rainey and Traut, 1990; Glaser and Hildreth, 1999).

Moreover, budgetary goals linked to 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 and Robbins, 2000). Citizen participation can also

lead governments to develop efficiency- and effectiveness-based performance measures aligned with public demands in the budgetary process (Woolum, 2011; Park, 2019; Ho, 2006). Some studies have attempted to examine the effects of citizen participation on government performance, arguing that agencies improve organizational performance by embracing citizen input in the budgetary process (Guo and Neshkova, 2013; Neshkova and Guo, 2012). Thus, based on the rational taxpayer perspective, local governments that utilize citizen participation would be expected to recover their financial condition more readily than those who do not, through greater support for increased revenue and efforts to improve efficiency.

In contrast, citizen input in the budgetary process might reflect, or be perceived as reflecting the 'free-rider' perspective. 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). The perception that participating citizens only have their own short-term self-interest at heart, and that they do not fully understand the costs and benefits of government services or the long-term implications of the options to provide useful input, has led some officials to believe that fiscal decisions should be left to the experts and elected officials (Irvin and Stansbury, 2004).

It has been argued that citizen participation is a time-consuming process that makes it difficult for governments to manage all public demands, with the side-effect that citizens' access to decision-making can create distrust in government (Irvin and Stansbury, 2004). Under the condition of limited financial resources, citizens pursue their self-interest which generates spillovers, wasteful costs, and political conflict (Riedel, 1972; Zhang and Liao, 2011; Mizrahi, Vigoda-Gadot and Cohen, 2010). Thus, from this perspective, citizens may be free-riders who want to enjoy high-quality public services that benefit them without paying the necessary costs. In this view, citizen participation in the budgetary process would not be expected to help in decision-making to improve the financial condition. Although existing studies have competing views on citizen participation, little scholarly attention has been paid to the empirical evidence on the effects of citizen input on decisions during fiscal stress, and even less on how that subsequently affects fiscal recovery over time.

4. Methodology

In this study, fiscal recovery models were employed to test the relationship between citizen participation during the Great Recession and fiscal recovery following this period. Based on the rational taxpayer view, we expect that local governments utilizing more citizen participation will have greater fiscal recovery than those using less participation. However, we recognize that the opposite might be the case, based on the free-rider view. We use the 2009 ICMA survey, 2008, 2009, and 2013 Comprehensive Annual Financial Reports (CAFRs), and the 2013 American Community Survey (ACS). The 2009 ICMA survey was electronically distributed to 7,237 local governments in locales with a population of

2,500 and above, including cities, counties, towns and townships, boroughs, and villages. A total of 2,214 local governments responded to the survey, resulting in a 30.5% response rate. This study employed a clear-cut political structure for cities and counties that have either elected leaders or non-elected leaders. A total of 601 responses identified as towns and townships, boroughs, villages, and a consolidated city[1] were excluded from the sample. Thus, the sample size for the 2009 ICMA survey in this study was 1,613.[2]

Financial condition indicators were extracted from the 2008, 2009, and 2013 CAFRs which are financial statements that show information about the current fiscal status of revenues and expenditures for municipal governments. The Governmental Accounting Standards Board (GASB) provides the generally accepted financial accounting principal standards that are used to prepare a CAFR, which aids in comparability across jurisdictions. The 2013 ACS offers a variety of socioeconomic and demographic information. The number of equations for the fiscal recovery models relies on financial condition measures as dependent variables. Ordinary least squares (OLS) regression with robust standard errors was used as the estimation strategy to resolve the heteroskedasticity problem.

During the Great Recession, financial condition might be determined by the collapse of major taxes, the expansion of employee benefits, and the collapse of the financial markets. Thus, three strategies are suggested to capture financial condition during the Great Recession. First, this study reflects the 'time frame' in measuring financial condition. Second, both general and government-wide funds are employed. Third, the budget stability of local governments is included in the financial condition measures. The unreserved, undesignated, and general fund ratios are used to capture budget solvency as representative of financial stability and government fund surpluses. Further, long-run solvency was considered by adopting net assets, unrestricted net assets, and long-term liability ratios. The last two measures are financial condition indices that were employed in a separate equation from the other financial condition variables (see Wang, Dennis and Tu, 2007). The first measure is a budget solvency index, including unreserved and general fund balances, and the second one is a long-run solvency index composed of net assets, unrestricted net assets, and long-term liabilities. It is calculated as follows:

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1   The samples have only one consolidated government, which is the City and Borough of Yakutat. To prevent possible biased results, this study does not use Yakutat to test the models in the samples.

2   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, 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 Yearbook, 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 Yearbook, the sample of the non-elected-based governments in this study is appropriate.

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

X: An individual financial condition measure value
μ: The mean of an individual financial condition measure value
σ: The standard deviation of an individual financial condition measure value
Financial condition index: Standardized scores

The dependent variables are transformed into percentage changes in financial condition between 2009 and 2013, based on CAFR data from these two years. According to the 2014 City Fiscal Conditions report (McFarland and Pagano, 2014), the fiscal capacity of municipalities had recovered by the 2013 fiscal year. To maximize the availability of CAFR data, the 2013 CAFRs were used to examine fiscal recovery. This study defines fiscal recovery as the difference in financial condition between 2009 (during the Great Recession) and 2013 (post-Great Recession), and is calculated as a percentage change in financial condition over the time period. The higher the percentage changes in the unassigned fund balance, general fund, net asset, and unrestricted net asset ratios, and in the financial condition indices, the more local government recovered their financial condition. Conversely, the higher the percentage change in the long-term liability ratio, the less local government recovered their financial condition.

The key independent variable is citizen participation, which is expected to have a positive relationship with fiscal recovery. To capture citizen participation, this study used a citizen participation index extracted from the following questions in the 2009 ICMA survey: (1) 'Were citizens involved in decision-making related to the fiscal crisis, such as decisions about how to allocate resources?' and (2) 'If citizens were involved in these decisions, please describe their involvement.' The second open-ended question offers citizen participation mechanisms composed of public hearings, public meetings, citizen surveys, committee, and advisory boards, focus groups and forums, and budget simulations. Ebdon and Franklin (2006) argue that multiple mechanisms can enhance the strengths and weaknesses of citizen participation. Given these arguments, an additive index[3] was employed to capture citizen participation mechanisms, ranging from '0' to '6'. Among the sample, 450 (27.9%) localities offered public meetings (8.9%) followed by public hearings (6.5%), committees and advisory boards (6.4%), focus groups and forums (2.8%), budget simulation (1.5%), and citizen survey (1.4%).

This study extracted control variables from structures and institutions, financial and political environments, and management choices. Four variables were extracted from the structures and institutions category: form of government, local autonomy, TELs, and strategic planning. Form of government is a re-classified dummy variable composed of elected leader-based governments (including the mayor-council, commission, and elected

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3   This study does not use a weighted citizen participation index because both a general and weighed citizen participation index generated the same results of the participatory budgeting model.

executive forms) and non-elected leader-based governments (including the council-manager and administrator form). Based on the literature, the expected sign (positive or negative) of form of government is unclear. This study employed the local autonomy index created by Wolman *et al.* (2010), and the TELs index used by Amiel *et al.* (2014). The expected sign of the local autonomy index is positive for fiscal recovery (see Hendrick, 2011). Due to mixed findings on the relationship between the adoption of TELs and financial condition, the expected sign of the TELs index is also unclear (see Ladd and Yinger, 1989; Nelson and Maher, 2014). The fourth control variable in the political structure and institution category is the adoption of strategic planning extracted from the 2009 ICMA survey. The details of the survey questions are shown in Table 1. Shelton and Albee (2000) conclude that the adoption of strategic planning is positively associated with financial condition at the local level. This study has a positive expected sign of strategic planning on fiscal recovery.

Table 1: Variables in the fiscal recovery model

Measurement	Description	Expected Sign	Data Sources
Dependent variables (Percentage change in financial condition 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
Financial condition index 1	Standardized scores of same financial condition factors: Unreserved fund balance and general fund balance	N/A	CAFR
Financial condition index 2	Standardized scores of same financial condition factors: Net asset, unrestricted net asset, and long-term liability	N/A	CAFR
Independent variables			
Citizen participation	Citizen participation mechanism index ranging from 0 to 6:	+	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 local autonomy on local debt, property tax rate, revenues, and expenditures in states	+	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

Measurement	Description	Expected Sign	Data Sources
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) / 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
2008 Financial condition indexes	Standardized scores of same financial condition factors	+	CAFR
2008 Financial condition index 1	Standardized scores of same financial condition factors: Net asset, unrestricted net asset, and long-term liability	+	CAFR
2008 Financial condition index 2	Standardized scores of same financial condition 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 personal conflict interfere' (Likert-5-Type Scale, 1: highly effective, 5: not effective)	-	ICMA
Racial diversity	Percentage of non-white population in 2013	-	ACS
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
Government type	City or County (dummy variable, 1: cities, 0: counties)	+/-	ICMA

Note: * Government-wide funds, ** General funds, *** I used a 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.

In the financial environments category, the population, family poverty, unemployment rate, per capita income, and 2008 financial condition variables were used. To reflect the fiscal recovery period, 2013 data for population, family poverty, unemployment rate, and per capita income were used in the economic condition category. Based on the literature,

population, family poverty, per capita income[4], unemployment rate has negative expected signs on financial condition (see Fox and Sullivan, 1978; Jargowsky, 2003). Previous fiscal conditions can influence future financial conditions (Jacob and Hendrick, 2012); thus, this study employed 2008 financial condition measures in the model. To resolve the multi-collinearity problem, a stepwise model was adopted where the seven equations include the same financial condition variable as a dependent variable. The unassigned fund balance, general fund, net asset, unrestricted net asset ratios, and financial condition indices have positive expected signs of fiscal recovery; conversely, the long-term liability ratio has a negative expected sign of fiscal recovery.

In the political environments category, political conflicts and racial diversity variables were used. Garcia-Sanchez, Mordan and Prado-Lorenzo (2012) found that the left party and politically fragmented governments tend to have higher budget deficits because of political conflict. Most local governments have nonpartisan elections; thus, it is not possible to construct a variable based on political parties. Instead, the 2009 ICMA survey provides a question about council relations to capture political conflicts (Table 1). The expected sign of political conflict is negative on financial condition. The second control variable in the political environment category is community diversity, taken as a percentage of the non-white population. Marlowe and Portillo (2006) argue that governments may use citizen participation to resolve political conflicts from racial diversity. Racial diversity has a negative expected sign of financial condition.

Fiscal outputs and outcomes can vary depending on the management choices of decision-makers (Hendrick, 2011). The 2009 ICMA survey shows various fiscal retrenchment choices during the Great Recession. The literature shows variations in the conflicts and rewards of fiscal retrenchment sets. Fiscal reformers, who focus on maximizing fiscal recovery, tend to adopt tax policy and cost-cutting or saving strategies rather than fees and charges (Bahl and Duncombe 1992). Thus, a high conflict-oriented fiscal retrenchment set is coded as '3' for local governments that include 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 include either tax policy or cost-cutting strategies in their fiscal retrenchment strategies. A low conflict-oriented fiscal retrenchment set is coded as '1' for local governments that exclude both tax policy and cost-cutting strategies in their fiscal retrenchment strategies.

Lastly, the units of analysis in this study are cities and counties. Thus, the type of government is included as one of the control variables in the fiscal recovery model. Limited research has examined the relationship between government type and financial condition, hence the expected sign for the type of government variable is unclear.

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4 To adjust the skewed distribution of population and per capita income variables, I used their natural logarithm for the fiscal recovery model.

5. Findings

Table 2 shows the descriptive results for the fiscal recovery models. Based on the variance inflation factors (VIF = 1.44–1.50), the equations of the fiscal recovery models do not have any serious multicollinearity issues. The skewness of the fiscal recovery model may result in a generalizability problem when interpreting findings. Thus, the population and per capita income variables are transformed into a natural logarithm. Table 3 presents the results of the fiscal recovery models, which offer seven equations with different financial condition-dependent variables. The models are statistically significant at the 99% confidence level (F = 6.74–9.96). There is also a variation in R^2 (10.0%–34.4%). The unreserved fund balance model has the highest explanatory power (34.4%) among the models.

Table 2: Descriptive results in the fiscal recovery model

Variables	Mean	SDV	Min	Max
Unreserved Fund	.036	.397	-4.789	3.331
General Fund	.037	.679	-4.158	19.133
Net Assets	.000	.110	-.747	.826
Unrestricted Assets	.016	.380	-2.974	3.313
Long-term Liability	-.014	.103	-.665	.505
Fiscal Index 1	-.623	2.514	-21.767	44.554
Fiscal Index 2	-.835	1.853	-25.028	15.562
Citizen Participation	.344	.587	1	4
Non-elected Form	.669	.470	0	1
Local Autonomy	.140	.318	-.982	.845
TELs Index	8.227	5.977	0	27
Strategic Planning	.649	.477	0	1
Population	54290	172175	418	3796840
Family Poverty	12.072	7.275	0	44.9
Unemployment Rate	5.812	2.352	0	15.8
Income	25243	10087	7493	104382
2008 Unreserved Fund Balance	.323	.377	-.423	7.014
2008 General Fund Balance	1.051	.264	.265	4.159
2008 Net Asset Ratio	.200	.172	-1.440	1
2008 Unrestricted Net Asset	.480	.523	-2.162	5.731
2008 Long-term Liability	.265	.198	0	2.690
2008 Fiscal index 1	.000	1	-4.242	16.556
2008 Fiscal index 2	.000	.999	-3.101	7.457
Political Conflicts	2.185	1.086	0	5
Racial Diversity	19.517	16.679	0	85.5
Fiscal Retrenchment Strategy	1.896	.494	1	3
Government Type	.821	.383	0	1

N=1,613

Models 1 and 2 for the budget solvency indicators show that citizen participation has significantly positive effects on the fiscal recovery of the unreserved fund and general fund balances (see Table 3). Models 3, 4, and 5 for the long-run solvency indicators illustrate that citizen participation has a significantly positive relationship to the fiscal recovery of the net asset and unrestricted net asset ratios; conversely, it has a significantly negative association with the long-term liability ratio. Models 6 and 7 also employed two financial condition indices, showing that citizen participation has significantly positive effects on the budget solvency and long-run solvency indices. The results indicate that localities with a commitment to citizen participation are more likely to improve their financial condition than others. Thus, all models support the hypothesis.

With respect to the control variables, council-manager governments are more likely to improve the long-run solvency ratio, as expected. In Model 2, local autonomy is positively associated with the fiscal recovery of the general fund balance ratio. Surprisingly, local autonomy has a significantly positive relationship with long-term liabilities in Model 5, but this relationship is reversed for the budget solvency index. It can be inferred that local autonomy may not help localities improve long-term liabilities and budget solvency. The local autonomy index is a factor score of fiscal authorities on debt, property tax rate, revenue, and expenditures. Therefore, localities with a higher level of local autonomy have more fiscal discretion to increase the debt burden as well as to utilize budget surpluses for the expansion of public expenditures. This may be why we found an unexpected result.

The TELs index has a significantly positive relationship with the fiscal recovery of the net asset and unrestricted net asset ratios. There is also a significantly negative association between the TELs index and the long-term liability ratio. The findings indicate that TELs restrictiveness contributes to improving the local financial condition; however, the TELs index has a significantly negative effect on the fiscal recovery of the budget solvency and long-run solvency indices in Models 6 and 7. Thus, this study follows the inconclusive argument that either TELs lead to government efficiency to improve financial condition (Nelson and Maher, 2014), or TELs limit fiscal discretion to raise revenues, resulting in fiscal stress on local governments (Ladd and Yinger, 1989).

Model 1 shows that population has a significantly negative effect on the fiscal recovery of the unreserved fund balance ratio, as expected, but this association is reserved in the long-run solvency index (see Model 7). The results support the argument that a larger population deteriorates the local financial condition because of the increased spending needs for public services and infrastructure (Fox and Sullivan, 1978). Alternatively, population growth may generate fiscal suppliers that create budget surpluses for the improvement of long-run solvency. In Models 3 and 6, a high level of family poverty tends to worsen the net asset and long-term liability ratios, as expected. A large portion of low-income people may discourage local governments from collecting sufficient tax levies, resulting in a poor fiscal state (Jargowsky, 2003). Model 6 shows that the unemployment rate has a significantly positive effect on the budget solvency index. Local governments may focus on efficiency to reduce financial resource spillovers when expecting lower tax levies in severe economic conditions. Thus, their efficiency-oriented financial management may have contributed

Table 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 Participation Index	.104*** (.018)	.125*** (.024)	.110*** (.013)	.202*** (.024)	-.195*** (028)	.960*** (.133)	.775 *** (.077)
Non-elected Form	.035 (.026)	.050 (.043)	.008 (.007)	-.017 (.027)	.000 (.006)	-.025 (.189)	.423 ** (.210)
Local Autonomy	.022 (.045)	.094* (.048)	-.012 (.010)	-.027 (.039)	.020** (.009)	-.720 ** (.306)	-.162 (.204)
TELs Index	-.000 (.001)	.001 (.002)	.001** (.000)	.003* (.001)	-.000* (.000)	-.048** (.015)	-.014 * (.008)
Strategic Planning	.007 (.043)	-.004 (.055)	-.001 (.008)	.032 (.022)	-.003 (.006)	-.108 (.147)	-.112 (.126)
Population (log)	-.085** (.030)	-.020 (.031)	.011 (.007)	-.026 (.021)	-.009 (.006)	.226 (.165)	.264 ** (.105)
Family Poverty	.005 (.004)	.007 (.007)	-.001** (.000)	-.001 (.002)	.001** (.000)	-.004 (.019)	-.007 (.016)
Unemployment Rate	-.007 (.008)	.011 (.013)	.000 (.001)	-.000 (.005)	-.001 (.000)	.098** (.041)	.016 (.028)
Income (log)	.564 (.373)	.831 (.642)	-.006 (.046)	.080 (.111)	-.015 (.041)	.059 (1.645)	-.510 (.721)
2008 Unreserved Fund Balance	-.537*** (.103)						
2008 General Fund Balance		-.411*** (.104)					
2008 Net Asset Ratio			-.116** (.046)				
2008 Unrestricted Net Asset				-.233*** (.041)			
2008 Long-term Liability					-.062** (.041)		
Fiscal index 1						.240 (.212)	
Fiscal index 2							-.116 (.072)
Political Conflicts	-.007 (.014)	.000 (.014)	.001 (.003)	.004 (.008)	.003 (.002)	-.053 (.107)	-.033 (.043)
Racial Diversity	.000 (.001)	.000 (.001)	.000 (.000)	.000 (.000)	.000 (.000)	-.002 (.006)	-.000 (.003)
Fiscal Retrenchment	-.019 (.022)	.007 (.026)	-.004 (.006)	.002 (.021)	-.002 (.007)	.087 (.192)	.061 (.104)
Government Type	.001 (.035)	.022 (.036)	.002 (.009)	.053** (.026)	-.017** (.008)	.325 (.215)	.193 (.281)
F	9.68	7.78	6.74	9.68	7.04	7.74	9.96
R^2	0.344	0.133	0.313	0.252	0.302	0.100	0.119

Note: Fiscal index 1: Budget solvency composed of unreserved fund balance and general fund balance
Fiscal index 2: long-run solvency composed of net asset, unrestricted net asset, and long-term liability
* $p < 10$, ** $p < 05$, *** $p < 01$
N=1,613

to improving their financial condition during the Great Recession. Lastly, government type has a significantly positive effect on the fiscal recovery of the unrestricted net asset and long-term liability ratios. Cities have more diversified revenue sources than counties in general, which may be why city governments are more likely to improve their financial condition than counties.

6. Discussion and conclusions

This study found that local governments with participatory budgeting were more likely to improve their financial condition. Local governments tend to employ participatory budgeting 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 from tough fiscal decisions, such as tax increases and public service cuts, which may lead to conflicts 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 and Stansbury, 2004). However, the results indicate that citizen participation may be effective for fiscal recovery, allowing localities to make tough decisions such as tax increases and expenditure cuts.

Some limitations should be addressed in the fiscal recovery models. First, this study used the difference in financial condition between the Great Recession and post-Great Recession periods, using the 2009 and 2013 CAFRs. Local government CAFRs based on GASB standards have 22 changes from 2007 to 2013. Thus, the financial condition as measured by assets and liabilities, and the unassigned fund balance, may be overestimated in 2009. Second, the results do not reflect the actual trend of citizen participation mechanisms in the post-Great Recession era. Third, because of data availability, 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. Lastly, other possible ways to measure financial condition and recovery were not fully considered.

However, this study offers important contributions to the fields of public budgeting and finance, and urban management. We demonstrate a democratic system where financial management is not limited to professional public officials but extends to citizens as well. Exploring the research question offers a theoretical background for the practical benefits of citizen participation by testing the effects of participatory budgeting on fiscal recovery. In exploring the practical benefits of citizen participation, many scholars have attempted to answer the question: 'Why should we care about citizen participation?' (Neshkova and Guo, 2012; Yang and Pandey, 2011). Despite the normative benefits that have been suggested, public officials who want to achieve organizational goals may be reluctant to use citizen participation without practical benefits. Although the literature indicates that citizen participation influences fiscal choices (Jimenez, 2014) and government performance (Guo and Neshkova, 2013), the fiscal benefits of citizen participation have not been previously

identified. Based on the results, local governments can better reflect public demands and may receive public support for painful fiscal decisions through citizen participation. Thus, this study offers lessons on how local governments can overcome possible fiscal crises in the future by answering this question.

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