Empirical Analysis of Local Government Financial Capacity: Focusing on Financial Index Analysis*

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Abstract: This research explores the financial status of local government, analyzing 234 local governments using 10 budget-related financial analysis indices published by the Korean Ministry of Government Administration and Home Affairs. This paper makes a correlation analysis of the index of local governments and measures the financial capacity of local government, looking for the developmental plan of financial capacity through a regression analysis for finding out factors affecting the resulting value. The results shows there was statistical significance in the entire score, such as the number of public officials, the number of civic groups, population, and local tax per capita. Local tax per capita was found to be most influential, followed by population.

Keywords: Local government financial capacity, Financial index analysis, Empowerment of local government capacity

INTRODUCTION

Local autonomy requires proper authority distribution and role division with the central government through decentralization. Namely, it can be achieved only with simple authority distribution and the development of local government capacity. With greater decentralization, the nation can realize real progress, which can elevate national competitiveness as well. Thus, local government capacity is essential.

Thanks to an increase in financial revenues attributable to advanced economic growth and decentralization policy, local financial capacity increased almost fivefold

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over 15 years, from 22.9 trillion won in 1990 to 107 trillion won in 2005 (Lim, 2006). Lim points out that this increase was mostly the result of advances in the financial transfer system, such as the introduction of local transfer money, and financial decentralization focusing on exorbitant financial transfers did not coincide with the expense of local government administrative service, which induced the moral hazard of financial operation and damaged local government autonomy, responsibility, and efficiency.

Thus, the central government has carried out local financial analysis to ensure the financial responsibility of local government, and it recognizes that securing responsibility suited for the acceleration of local and financial decentralization is coming to the forefront.

This research explores the financial status of local government by analyzing 234 local governments using 10 budget-related financial analysis indices published annually by the Korean Ministry of Government Administration and Home Affairs.

THEORETICAL DISCUSSION OF LOCAL GOVERNMENT FINANCIAL CAPACITY

Evaluation of Local Government Capacity

Concern about capacity has increased in the private sector and, more recently, in the public sector. The concept of competence has many meanings according to diverse approaches and understandings, and studies and reports have mainly focused on human resource management.

Studies conducted by applying such approaches to local government include Choi et al. (1993), Choi (1996), Kim et al. (1999), Choi (2003), and so on. Choi (1996) mentions the capacity to achieve through the local government's own power and ability, which means the power to decide and deal with public affairs and with local residents' autonomous intention and responsibility and to independently operate and develop local government (Choi, 1996). The United Kingdom's Office of the Deputy Prime Minister (2003) defines it as "an activity helping local governments strengthen their effective ability" (Choi, 2003).

The capacity of local government is the presentation of its acting ability and vision for citizens without being inordinately controlled by the central government, where capacity factors need to use structural approaches including all fields, such as human, material, and external forms, not simply individual human capacity.

Analysis of Local Government Financial Capacity

The analysis and evaluation of local government financial capacity[1] has as its goal the diagnosis of financial capacity, the grasping of operational problems, and it's the establishment of a developmental plan. The Korean Ministry of Government Administration and Home Affairs comprehensively analyzes the financial status of local government according to Article 118, the Local Finance Law; Article 165, the enforcement ordinances; and the Local Finance Analysis Diagnosis Enforcement Regulations (instructions of Ministry of Government Administration and Home Affairs, 2006).

Korea country revised its Local Finance Law for the sound operation of local finance in December 1994 following the popular election of local government heads and introduced a local financial analysis system in 1996, internally analyzing eight basic items, which were extended in 1997 to a total of 18 indices covering the three areas of financial ability, operation, and effort. In 1998, the local government enacted the Local Financial Analysis Diagnosis Deliberation Enforcement Regulations (instructions of Ministry of Government Administration and Home Affairs), analyzing 10 unit indices, and began to make the results public on a yearly basis. In 1999, the government carried out a comprehensive analysis covering four areas and 10 unit indices developed by the Korea Local Administrative Institute, and it applied an incentive and penalty system based on this analysis (Lee, 2004). In 2005, this system was expanded and reorganized to analyze single and multiyear trends using information on the settlement, accounting, statistics, output, and outcomes of local government (Ministry of Government Administration and Home Affairs, 2005).

In order to develop local autonomy, the independence of financial operations of local government must be enhanced, and responsibility for financial operations is required. The independence of a local financial operation is one aspect of local financial soundness, whereby it eliminates extravagant expenditures, ensures stable financial operations, and maximizes residents' welfare within an acceptable scope.[2]

Lim (2001) regards the soundness of local finance as an expression of the financial status of the local body in terms of concrete revenue and obligatory ability, considering expenditures one aspect of a judgment measuring, for example, expenditure structure and expenditure type, as well as revenue and expenditure related to financial infrastructure. Yoon (2001) regards the expansion of the revenue base, effective finan-

1. To grasp the financial level and status of local government, terms such as *financial analysis, financial evaluation*, and *financial diagnosis* are used at the same time (Won, 2006).
2. Similarly, Seo (2004) regards the soundness of local finance as comprising financial healthiness, financial pressure, and financial obligation performance possibility.

cial expenditures, and effective financial operations as means of ensuring financial soundness.

Financial soundness, according to Korea's local autonomy law, focuses on the balance of financial accounts, whereas the local financial law stresses local obligatory management. Namely, the local financial law takes into account income level, expenditure level, and obligatory level in its definition of financial soundness.

Putting the foregoing arguments together, the financial soundness of local government can be said to target revenue, expenditure, and obligatory payment ability.

Maintaining the soundness of local finance is the responsibility of the relevant local government. The person who is ultimately responsible for finance needs to establish policy related to financial soundness. For the central government, local financial soundness can be summarized as follows: First, it involves routine financial management and supervision. Second, based on data on the financial operations of every local body in every year, financial analysis is carried out, and sound and unsound financial operations are classified and managed. In particular, identifying unsound financial operations and performing financial diagnosis work is intended to intercept any threatening financial crisis. Third, financial soundness should be kept through investment examination to concrete examination performed by local government (Lee et al., 2002).

Agreement on the indices that best measure the financial soundness of local government has been diversely achieved, and the measurements are controversial. First, local financial independence is a very general concept whose meaning and indices have been disputed (Sohn, 2006). In other words, financial independence is contradictory in that it does not consider the expenditure aspect of local finance, and the more obligatory burden, the larger financial independence as the income of local bonds is included as non-tax income, and local governments are not in a position to stop their own undertaking, as their financial independence is low, and financial demand necessary through local delivery tax as general resources not restricting the use of expenditure is somehow satisfied.

Subindices related to the second revenue structure include the local tax burden index or the independent resources index, the independent resource ratio or the general resource ratio per capita, the continuity or stability index of revenue, the income ratio of local bonds, the ratio of taxpayers, the increase ratio of tax revenue, the collection ratio of local tax, the securing effort index of tax revenue, and the potential financial index. The indices related to the third expenditure structure include expense and investment index per capita, the ratio of ordinary expense, the ratio of obligatory expense, the ratio of public bond expense, and the ratio of investment expense. Fourth, subindices of steadiness and elasticity of finance are presented with the ratio of actual

revenue and expenditure, the ratio of ordinary revenue and expenditure, the ratio of resource distribution to that of functional distribution, and so on (Choi et al., 1993, p. 15).

The measurement of local government finance is divided into the index of financial independence, financial ability, and stability; the ratio of ordinary accounts; the ratio of revenue expenditure appropriation; the ratio of local bond redemption as an index of productivity; the ratio of financial plan operation; the ratio of revenue budgetary reflection as an index of endeavor; and the variation ratio of its own revenue and variation ratio of ordinary expenses (see Table 1).

With increased concern among local residents about the enforcement of local autonomy, financial demand has increased all the more. However, local governments' financial capacity thereto can be said to be unsatisfactory (Gwak, 2000). Limited local government finance has some limitation in meeting the full demands of local residents. Thus, elevating the demands of local residents and using restricted financial resources should maximize the effectiveness of financial management. In other words, it the performance and effectiveness of local government financial operations must be enhanced.

RESEARCH METHODS

This research explores the financial status of local government, and understanding it under the perception of such a problem, analyzes 234 local government using 10 budget-related financial analysis indices published annually by the Korean Ministry of Government Administration and Home Affairs: financial self-independence, financial capacity index, ratio of ordinary accounts, ratio of revue and expenditure appropriation, redemption ratio of local borrowing, operation ratio of financial plan, ratio of revenue budget, ratio of investment, variation ratio of self-income, and variation ratio of ordinary accounts.

First of all, the paper conducted a correlation analysis as to the index to local government (city, county, autonomous district) and its correlation. Also, the financial index values of relevant local governments are of variant types in amount and percentage, so the local government indices were scored through their standardized work. Based on this, the study carried out measurement of financial capacity of local government and looked for the developmental plan of financial capacity through a regression analysis for finding out factors affecting the resulting value.

Variables

The financial capacity of local government can be defined as a concept involving local financial ability, whereas autonomy is the satisfaction of financial conditions in order to provide local residents with high-quality public service. The concept of financial capacity needs comprehensive measurement to take into account aspects such as financial supply and demand (Kim, 1996; Yoon, 1995). To solidify local government capacity, this research set its subjects with the soundness and effectiveness of financial analysis index of Ministry of Government Administration and Home Affairs. The detailed evaluation index to measure local government financial capacity is found in Table 1.

- Soundness: The soundness of financial capacity refers to the stability and independence of financial resources and whether the necessary budget can be secured for expenditures. The independence to make possible the timely performance of a necessary project, along with the procurement of appropriate financial resources, is a major consideration for soundness evaluation. The detailed measurement index is composed of financial independence, the financial ability index, the ratio of ordinary accounts, the ratio revenue and expenditure appropriation, and the ratio of local borrowing redemption.
- Effectiveness: The principle of effectiveness means maximizing output results

Table 1. Analysis Index of Financial Capacity of Local Government

Analysis Field	Soundness		Effectiveness	
Area	Independence	Stability	Productivity	Endeavor
Unit (unit index)	① Financial independence ② Financial ability index	③ Ratio of ordinary accounts ④ Ratio of revenue and expenditure appropriation ⑤ Ratio of local borrowing redemption	⑥ Ratio of financial plan operation ⑦ Ratio of revenue budget ⑧ Ratio of Investment	⑨ Variation ratio of own income ⑩ Variation ratio of ordinary expenses
Character	• Analysis of financial status • Measurement of local government's financial ability	• Analysis of financial structure • Measurement of elasticity of financial structure, income, outcomes	• Analysis of financial management • Measurement of planning of financial operation, rationality of resource distribution	• Analysis of financial effort • Measurement of revenue collection, budget reduction

Source: Ministry of Government Administration and Home Affairs, 2004.

compared to input resources, which is understood as inputting minimum expenses and seeking maximum effect from a given investment. The index measuring the effective management of resources for successful local government operation is composed of the ratio of financial operation plan, the ratio of revenue budgetary reflection, the ratio of own investment, the variation ratio of its own revenue, the ratio of ordinary expenses, and so on.

Measurement

To measure the financial capacity of local government, the financial analysis index of Ministry of Government Administration and Home Affairs was utilized, which has some limitations. In other words, although the individual indices have no problems, they include structural problems such as statistical limitation, limitation by features of the budgetary accounting system, and financial statistic basis (Lim et al., 2004).

This study carried out standardization work on each evaluation index to resolve the limitation of this index characteristic. This is difficult to compare, as the inter-index unit is variant even if the measure is same; therefore, each index was converted to a standard score.

Also to use standard score is assumed on that to relevant index value, the subject group indicates normal distribution. The local government used in this research are thought to form some normal distribution to index value subject to central limit theorem (refer to Figure 1).

Figure 1. Z Score

$$Zik = \frac{Xik - \overline{Xi}}{s}$$

But, Zik: Standard score of k local government variable i
Xik: Value of k local government variable i
$\overline{Xi}$: Average of I variable
s: Standard deviation of i variable

To convert the standard score of index requires setting the evaluation grade section and the evaluation score scope for each index. The most vital is whether to give a basic score or not. As a means of granting a basic score to evaluation for each index in order to change the local financial evaluation result to a comprehensive score, Gwak (2000) points out that granting a basic score has the difficulty of definite differentia-

tion in the evaluation result and thinks it rational to set the evaluation scale to 0-100 (%). The Korea Research Institute for Local Administration (KRILA, 2004) also uses a method to standardize raw data to z-scores (normal distribution, average 0, standard deviation 10, and convert it to *T* value [50 + 10z]). Gwak's analysis approach is reasonable in making a relative comparison of local governments, but it has the limitation that metropolitan governments are 220 more than 16. some of which may get an extremely low score. Thus, this analysis quoted and supplemented the scoring method of Local Administration Institute and carried out scoring work with 60 basically given in a full mark of 100. This study does not rank the scores but compares local governments, so it prevents a minimum score of 0 by giving a basic score 60 and dividing the section by 10 to produce A-D grades (refer to Figure 2). This analysis compiles data from the Ministry of Government Administration and Home Affairs' local financial open system[3] for 2003.

Figure 2. Score Methods

$$Tls = \frac{Tik - \text{Zmin}}{\text{Zmax} - \text{Zmin}} \times 40 + 60$$

But, *Tls*: Score of 1s local government
Tik: Standard score of k local government variable *i*
Zmin: Minimum value of standard score of variable
Zmax: Maximum value of standard score of variable

ANALYSIS OF LOCAL GOVERNMENT FINANCIAL CAPACITY

Comparison and Correlation Analysis

Looking into the financial analysis results of basic local government by dividing the average score of each index, the score was calculated to be city, 81; county, 80; and autonomous district, 79. City was the highest, followed by county and autonomous district, but given the standard deviation, entire average score can be seen as having no great difference by city, county, or autonomous district (refer to Table 2).

Looking into the results by soundness and effectiveness, city was found to be 76; county, 79; and autonomous district, 75, where city was the highest, followed by

3. See http://lofin.mogaha.go.kr/.

Table 2. Comparison of Average among City, County, Autonomous District

Classification		Total	Soundness	Effectiveness
City	Average	80.94	76.19	85.70
	N	77	77	77
	Standard deviation	1.86	2.33	2.95
County	Average	79.94	73.38	86.50
	N	88	88	88
	Standard deviation	1.43	1.94	2.18
Autonomous district	Average	78.99	74.99	83.00
	N	69	69	69
	Standard deviation	1.88	2.96	2.18
Total	Average	79.99	74.78	85.21
	N	234	234	234
	Standard deviation	1.87	2.67	2.85

autonomous district and county. As for effectiveness, the results indicated city, 86; county, 87; and autonomous district, 83, where county was the highest, followed by city and autonomous district.

City was found to be high in soundness but moderate in effectiveness; county was very low in soundness but very high in effectiveness; and autonomous district was moderate in soundness but low in effectiveness compared to that of city and county.

The overall soundness and effectiveness of city, county, autonomous district were found to be 75 and 86, respectively. The latter was by far higher, which can be said to require more effort in order to ensure the soundness of local finance.

Looking into whether each financial analysis index had an effect on the other indices, Lim and Seo (2004) found that financial independence and financial ability index had a positive correlation, whereas financial independence, the ratio of revenue and expenditure appropriation, the ratio of local bond redemption, and the ratio of investment had a negative correlation, and the other indices had low or no correlation.

This study shows that the financial independence and financial ability index had a high, positive correlation ($p < 0.01$), and the ratio of financial plan operation had a slight positive correlation, but the ratio of revenue and expenditure and the ratio of revenue budgetary reflection, investment had negative correlations ($p < 0.001$).

The financial ability index had a positive correlation with the ratio of financial plan operation and a negative correlation with the ratio of revenue appropriation, and the ratio of revenue and expenditure had a positive correlation with ratio of local borrowing redemption and the ratio of revenue budgetary reflection and investment.

The ratio of financial plan operation had a positive correlation with ordinary

Table 3. Result of Correlation Analysis between Financial Analysis Indices

	Financial Independence	Financial Ability Index	Ratio of Ordinary Accounts	Ratio of Revenue and Expenditure Appropriation	Ratio of Local Borrowing Redemption	Ratio of Financial Plan Operation	Ratio of Revenue Budget Reflection	Ratio of Investment	Variation Ratio of Own Income	Variation Ratio of Ordinary Expenses
Financial Independence	1	.833***	.132*	-.590***	-.254***	.316***	-.413***	-.534***	.000	.060
Financial Ability Index	.833***	1	-.197*	-.420***	-.145*	.313***	-.298***	-.282***	.023	.079
Ratio of Ordinary Accounts	.132*	-.197*	1	-.181*	-.268***	.063	-.150*	-.629***	-.100	-.006
Ratio of Revenue and Expenditure Appropriation	-.590***	-.420***	-.181*	1	.375***	-.268***	.597***	.604***	.043	.069
Ratio of Local Borrowing Redemption	-.254***	-.145*	-.268***	.375***	1	-.334***	.298***	.288***	-.091	-.136*
Ratio of Financial Plan Operation	.316***	.313***	.063	-.268***	-.334***	1	-.260***	-.305***	-.329***	.418***
Ratio of Revenue Budget Reflection	-.413***	-.298***	-.150*	.597***	.298***	-.260***	1	.434***	.024	.043
Ratio of Investment	-.534***	-.282***	-.629***	.604***	.288***	-.305***	.434***	1	.199*	.130*
Variation Ratio of Own Income	.000	.023	-.100	.043	-.091	.329***	.024	.199*	1	.622***
Variation Ratio of Ordinary Expense	.060	.079	-.006	.069	-.136	.418***	.043	.130*	.622***	1

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

expenses, but the ratio of financial plan operation was negative, and the ratio of revenue budgetary reflection had a positive correlation with only the ratio of investment, and the variation ratio of its won income had a high correlation with the variation ratio of ordinary expenses. Other indices were low or negative in correlation, corresponding with existing studies (refer to Table 3).

Analysis of the Financial Soundness and Effectiveness of Local Government

City

Looking into the soundness and effectiveness of local government financial capacity, the basic city was found to be 81 in the overall average, 76 in the soundness average, and 86 in the effectiveness average.

Jeonju-City had the highest overall average (86); it scored 81.24 in soundness, 91.41 in Effectiveness, and received a high score in financial effectiveness, giving it a high overall average score, followed by Yongin-City, Suweon-City, and Ansan-City (refer to Table 4).

To improve city financial capacity, efforts must be made to increase effectiveness and soundness. Looking at the average score of the city, effectiveness was found to be higher than soundness by 10 points, which indicates that effective financial operation is more easily achieved than soundness. Thus, improving the financial capacity of the city requires improving effectiveness as well as soundness.

Table 4. Financial Capacity Results for the Top 10 Cities

Groups	Soundness	Effectiveness	Total Average	Rank
Total Average	76.19	85.71	80.95	-
Jeonju	81.24	91.41	86.33	1
Yongin	80.77	89.38	85.07	2
Suweon	81.19	86.43	83.81	3
Ansan	79.57	87.59	83.58	4
Yangsan	77.53	89.09	83.31	5
Donghae	77.75	88.69	83.22	6
Gangneung	76.51	89.73	83.12	7
Gwangyang	79.25	86.21	82.73	8
Namyangju	77.50	87.70	82.60	9
Gimhae	77.53	87.65	82.59	10

County

Looking into the soundness and effectiveness of local government at the county level, the overall average was found to be 80, the soundness average 73, and the effec-

tiveness average 87. Chungnam Dangjin-gun had the highest score at 83 overall, 79 in soundness, and 88 in effectiveness, followed by Namjeju-gun, Yangju-gun, and Seocheon-gun (refer to Table 5).

Namjeju-gun was found to be high in effectiveness compared to Dangjin-gun but low in soundness, which was low across the scores. The effectiveness of Yangyang-gun was found to be higher than any other county but its soundness was low. However, considering the standard deviation, the county with higher priority was found to have been no difference. Also, effectiveness is largely different compared to soundness, so the county needs to make more effort.

Table 5. Financial Capacity Results for the Top 10 Counties

Groups	Soundness	Effectiveness	Total Average	Rank
Total Average	73.38	86.50	79.94	-
Dangjin	78.86	87.53	83.19	1
Namjeju	77.59	88.39	82.99	2
Yangyang	74.31	91.62	82.96	3
Seocheon	77.48	88.40	82.94	4
Geumsan	74.42	89.72	82.07	5
Muju	72.89	90.75.	81.82	7
Ulsan-Ulju	74.81	87.86	81.34	8
Wando	76.54	86.13	81.34	9
Yeongdong	73.60	88.97	81.29	10

Autonomous District

Looking into the soundness and effectiveness of local government at the autonomous district level, overall average was found to be 79, the soundness average was 75, and

Table 6. Financial Capacity Results for the Top 10 Autonomous Districts

Groups	Soundness	Effectiveness	Total Average	Rank
Total Average	74.99	83.01	79.00	-
Gangnam-Gu, Seoul	83.47	83.76	83.61	1
Nam-Gu, Gwangju	74.94	88.06	81.50	2
Gwangsan-Gu, Gwangju	79.72	82.98	81.35	3
Jung-Gu, Daegu	81.98	80.44	81.21	4
Seo-Gu, Daejeon	78.34	84.04	81.19	5
Dong-Gu, Daejeon	72.72	89.55	81.14	6
Gangseo-Gu, Busan	76.95	85.06	81.00	7
Yuseong-Gu, Daejeon	74.27	87.42	80.85	8
Seo-Gu, Gwangju	76.48	85.20	80.84	9
Jung-Gu, Seoul	81.03	80.57	80.80	10

the effectiveness average was 83. Gangnam-gu, Seoul, had the highest overall score at 84; at 83, it was higher in soundness average compared to other Gus but relatively lower at 84 in its effectiveness average, followed by Nam-gu, Gwangju, Gwangsan-gu, Gwangju, Jung-gu, and Daegu (refer to Table 6).

Comparing the soundness and effectiveness of autonomous districts to that of the city and county district, the difference is less, but effort is needed in order to improve soundness and effectiveness.

Results of Regression Analysis

To explore the factors that influence the financial capacity of local government, a regression analysis was carried out using related variables, including the number of public officials in local government, the number of civil groups, political effect (voting ratio of general election, voting ratio of local election, and gained votes of local government head), the population of the locality, the local tax payment per resident, and the production of mining and manufacturing industries (refer to Table 7).

Table 7. Results of Regression Analysis

Factor	Variables	Nonstandardized Coefficient		Standardized Coefficient	t
		B	Standard Error	Beta	
Total sum	(Constant)	78.035	2.187		35.675***
	Number of public officials	-.003	.000	-.490	-5.229***
	Number of civic groups	.014	.005	.180	2.535*
	Voting rate of general election	.000	.033	.000	.006
	Voting rate of local election	.021	.013	.164	1.671
	Gained votes of local government heads	-.002	.006	-.021	-.368
	Population	3.691E-06	.000	.399	3.082**
	Output of mining and manufacturing industries	2.097E-08	.000	.082	1.260
	Local tax per resident	.008	.001	.461	6.937***
	R^2	0.316			
	F	12.868***			

Each influential variable includes the important components of local government, whose primary component is the public official. This is to see the effect of local public officials on finance, which should be carried out on the basis of research into public officials' awareness; this study, however, has used public officials only as a variable of the empirical analysis.

With the increased role of civic groups, with regard to how they influence the finance of local government, the number of civic groups in the local government was measured, and political influence was measured by the voting rate of the general election, that of local election, and the number of gained votes of head of the local government. Also included were the population of the relevant local government and the local tax paid per resident.

The production cost of the mining and manufacturing industries can act as a driver of local economic activity, and so it was set as an influential variable in the financial capacity of local government because it can improve the life quality of residents by attracting enterprises and developing local economy.

The analysis results show statistical significance in the total score such for the number of public officials, the number of civic groups, population, and local tax per capita. Local tax per capita was most influential, followed by population (explanatory ability, 31.6%).[4]

EMPOWERMENT OF FINANCIAL CAPACITY OF LOCAL GOVERNMENT

With the sudden rise in importance of local finance because of the enforcement of local autonomy,[5] the soundness and effectiveness of local finance should be secured. Namely, enhancing the effectiveness and responsibility of the local financial operation should escalate the application of private entrepreneurial management techniques to the operation of local government such as example, the promotion of expenditure restructuring, the extensive application of market principles such as beneficiaries' burden, and the intensification of the competitive system with the private sector to reflect environmental change and new resident demands (Lim, 2006).

The financial soundness of local government aims at enhancing the achievement of

4. There is no multicollinearity.
5. It was clarified that total size (general + special accounting) of local finance increased nearly fivefold in 15 years, from 22.9 trillion won in 1990 to 107 trillion won based on net calculation (Lim, 2006).

financial operations. To effectively achieve this goal, both monetary and nonmonetary incentives and penalties for local government are required. Namely, it is necessary to offer monetary and nonmonetary incentives to high-performing local governments and to impose penalties on poorly performing local governments (Gwak, 2004). Based on the comprehensive score calculated in our results, for a local government that is selected as excellent, and a local government selected as excellent in each evaluation area, a plan can be conceived to share part of a special subsidy and to differentially provide monetary incentives.

It is necessary to grant the autonomous right of local financial operation to a local group with excellent financial soundness. In other words, a local government selected as an excellent body can be seen as securing full autonomous capacity to effectively operate local finance, which requires a plan to guarantee the autonomous right of local financial operation compared to other local governments.

To any poorly achieving local government, it is necessary to provide a negative incentive in the process of supporting a local delivery tax, or take an active post-measure for the provisional violation in financial operations.

To enhance the financial effectiveness of local government, it is necessary to secure responsibility in local government's operating finance. For this, local finance should get out of conventional heteronomy, monopoly, authority, stiffness, and uniformity and be operated with autonomy, competitiveness, post-authority, and elasticity (Gwak, 2000).

Also for the financial stability of local government, it should be operated with long-term vision rather than short-term vision. In other words, a mid- to long-term financial plan can alleviate the burden of local residents and carry out stable resource distribution. The mid- to long-term local financial plan and investment and loan examination should analyze the investment effects of a project, decide on its priority, and properly distribute resources. As a prerequisite, it should fully collect citizens' opinions about the project prior to the compilation of the budget. In other words, it should carry out "a participant type budget compilation system," fully gathering citizens' opinion through the provision of related information, questionnaire surveys, hearings, and informal gathering via the Web. Also, the achievement of local financial operations should be controlled by citizens.

The most vital component, besides citizen participation, is the role of local council. It is good to positively induce citizens' participation, but prior to that, local council members checking and evaluating local government need to have a steady concern about the finances of the local government.

CONCLUSION

This study has explored the financial index of local government in terms of soundness and effectiveness. The soundness of local finance is crucial for the central government to impose financial control on local government, but it is necessary to expand the autonomy of financial operation and to solidify financial capacity. No wonder it does not say the autonomy of local government should be expanded without any restriction. In regard to that, the finance of local government must strengthen its financial crisis management ability through credit rating.

The United States has seen the collective outbreak of financial crisis in local government in its metropolitan cities: New York, Chicago, Detroit, and Boston have repeatedly issued short-term bonds for short resources attributable to reduced property tax revenues, expanded unemployment expenditures, and reduced state financial support during the financial crisis of the 1930s (Seo, 2001). Thus, we have threatening factors to the financial crisis of local government according to the business expansion of local government heads from the popularly selected era and need to take measures against that.

In analyzing the financial capacity of local government, this paper has made use of 10 indices available from the local financial analysis system of the Ministry of Government Administration and Home Affairs. Measuring and evaluating the financial capacity of local government only with 10 indices has some limitations, requiring subsequent research through steady supplementation. Each index can have a significance, but will have to carry out its constant supplementation and development in the rapidly changing circumstances of local government. Additional measurement index and analysis technique should be scientific. Also, a more long-term developmental plan should be sought, taking into account diverse variables related to the local economy, not only seeing the financial conditions of local government. Other considerations can include the relationship with the central government (budgetary distribution of central and local governments), nationwide economic trends, and local economic trend.

This study has made an analysis only with simple numerical indices, but the capacity of local government can be said to how well the local government head, subordinate public officials, and local council would operate its finance. In other words, the important thing is the local government head's ability and will for local borrowing redemption, which needs additional research and analysis.

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