

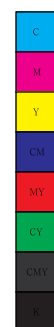


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# Assessing Performance-informed Budgeting System in Korea

December 2015

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# I

## Introduction

Over 10 years have passed since the fiscal performance management system was introduced in Korea; there is now a need to analyze previous outcomes and reestablish policy directions for the future. Korea's fiscal performance management system consists of the monitoring, periodical evaluation, and selective in-depth evaluation stages. This system is globally acknowledged as excellent in terms of its policy factors and was assessed by the OECD Performance Budgeting Survey as having the most outstanding factors in 2011 and 2012. It is acknowledged as excellent, at least in terms of the connection between major factors and the decision-making process of the official policy.

However, questions have been raised in Korea regarding the practical effects and sustainability of the fiscal performance management system. Problems include its weak connection with macroeconomic financial conditions, a mechanical budget reduction, weak improvement points for programs, its low utilization by decision-makers at the executive level, the need to improve the performance-based system, an overly centralized policy, and overlapping factors with other evaluation systems. The purposes of the policy in its initial stage and its maturity stage may differ, and the method of operating the system may need to be changed.

Signs of change are being seen in the fiscal performance management system, which has remained the same for the past 10 years. Efforts have been made to strengthen the connection and integration among the divided and overlapping performance management systems for fiscal programs and to

introduce policies that focus on evaluations and expenditure restructuring at a level superior to that of the performance management and evaluation system based on individual unit programs. Such efforts are considered to have arisen from the maturity of the policy and the change in the relevant policy environments. Consistent with such improvement efforts, this study examines the outcomes of the existing performance management systems for fiscal programs. The study's purpose is largely twofold. The first purpose is to keep a record of previous outcomes—the changes that have been made through the fiscal performance management system. This study examines the actual changes in individual programs by examining the microscopic outcomes of the fiscal performance management system. Previous studies have not examined the outcomes related to microscopic changes in individual programs but have dealt only with the connection between the outcomes of performance evaluation and budgeting and have analyzed through surveys on government officials. Microscopic studies on the effect of the fiscal performance management system on program improvement are lacking. Few microscopic empirical analyses have been conducted to determine whether the program planning and management stages, as well as the effectiveness of the program, have been improved.

The second purpose is to obtain policy implications for future policy improvements by examining previous outcomes. Many major issues about the policy have already been raised and discussed, even without close examinations of outcomes. Based on the three major purposes of the performance management system for fiscal programs—improving transparency and responsibility, the program, and resource allocation—this study analyzes the policy outcomes and identifies weaknesses in order to derive future policy tasks.

In terms of transparency and responsibility, it is important to consider whether the fiscal performance management system assesses and manages fiscal programs comprehensively and systematically as well as the level of information disclosure. Also important to consider is whether the program managers and departments are making real efforts to produce practical effects and fulfill the external responsibilities of the fiscal performance management program. This study examines the appropriateness of the budgeting structure for the program on which the fiscal performance management system is based and assesses the system's establishment and utilization by executive decision-makers. Regarding

program improvement effects, this study examines the changes in individual programs by tracking improvement levels in the assessed programs. It records a type of benchmarking information by tracking not only the changes in evaluation results but also the contents of those changes. Finally, the study examines the utilization of evaluation results on budgeting to improve resource allocation. Since examining whether resources have been allocated using performance information to ensure program effectiveness is difficult, the study updates previous study results by focusing on the connection between evaluation results and budgeting.

After analyzing the three purposes of the fiscal performance management system, this study reaches its conclusion by deriving and discussing the policy implications concerning system improvements.

## II

### History and Background of Policy Introduction

#### 1 Background on and Progress of Fiscal Performance Management System

The Government of the People, tasked with overcoming the 1997 foreign exchange crisis, emphasized performance, competition, and customer-oriented business and started introducing various performance management policies for each department and area, such as an institution evaluation system, goal management system, and performance-informed budgeting system.

After the foreign exchange crisis, a performance management system, called the “performance-informed budgeting system,” was piloted in 1999. Modeled on performance-based budgeting systems in developed countries, this system was a pilot program that allocated budgets based on the performance of 39 institutions. Since this policy, which ended in 2012, was conducted only for some offices and divisions in each department, it could not be firmly established due to problems such as lack of interest from institution heads and poor connection to budgets.

The Participatory Government, launched after the Government of the People, showed interest in performance management for government areas from its beginning, and introduced the “performance management system for fiscal programs” in 2003. This was conducted for 22 departments that had piloted the existing performance-informed budgeting system. The government developed performance indicators for the programs required for performance management from 2003 to 2005,<sup>1)</sup> wrote a performance plan in 2005, and wrote a performance

report in 2006 to carry out an evaluation and fiscal reflections starting in 2007.

Moreover, it enacted the 「Framework Act on Public Service Evaluation」 in 2006, establishing a performance management system centering on the Prime Minister's Office. Performance management for the overall operation of institutions such as major policy tasks, finance, organization, HR, and informatization were connected on institutional, departmental, and individual levels, granting autonomy and responsibility for outcomes to individual departments in order to establish a unified system with the goal of improving institutional performance, policy quality, and user satisfaction. Moreover, the 「National Finance Act」, which integrated and unified the 「Act on Budget and Accounts」 and 「Framework Act on Fund Management」, was enacted in order to prepare the foundation of a performance management system that linked performance and budgets.

<Table II-1> summarizes the progress of fiscal performance management begun in 1999. To briefly discuss the key contents, the voluntary evaluation of fiscal programs, which plays a central role in fiscal performance management in Korea, was conducted in 2005, as was an in-depth evaluation of the fiscal performance management system. Since 2008, a government performance plan has been submitted to the National Assembly as an appendix to budget proposals. Since 2010, a government performance report has been submitted to the National Assembly as an item for statement of accounts, solidifying the link between fiscal performance evaluations and budgets.

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1) As described later, the performance management system for fiscal programs in Korea produces management and evaluations based on performance indicators; it was thus important in terms of performance management to establish outcome indicators that could reflect program outcomes. Therefore, providing adequate time for developing performance indicators was a critical step in firmly establishing the subsequent performance management system.

〈Table II-1〉 History of fiscal performance management system

Year	Content
'99	<ul style="list-style-type: none"> <li>Carried out pilot program for performance-informed budgeting system</li> </ul>
'03	<ul style="list-style-type: none"> <li>Piloted performance management for fiscal programs</li> </ul>
'05	<ul style="list-style-type: none"> <li>Conducted voluntary evaluation on fiscal programs for the first time</li> </ul>
'06	<ul style="list-style-type: none"> <li>Conducted in-depth evaluation of fiscal programs</li> </ul>
'07	<ul style="list-style-type: none"> <li>Integrated performance plan and performance management execution plan</li> </ul>
'08	<ul style="list-style-type: none"> <li>Submitted 2009 government performance plan to the National Assembly as an appendix to budget proposal for the first time</li> </ul>
'09	<ul style="list-style-type: none"> <li>Separated performance plan and performance management execution plan</li> </ul>
'10	<ul style="list-style-type: none"> <li>Submitted 2009 government performance report to the National Assembly as an item for statement of accounts for the first time</li> <li>Started unifying performance management system and program budgeting system in 2010</li> <li>Expanded subjects for in-depth evaluation to units of program group.</li> </ul>
'11	<ul style="list-style-type: none"> <li>Starting in fiscal 2011, made it mandatory to match the budgeting plan with program contents and program costs based on the subsequent performance plan</li> </ul>
'13	<ul style="list-style-type: none"> <li>Started submitting comprehensive summary and analysis of government performance plan and report from 2014 performance plan.</li> </ul>
'14	<ul style="list-style-type: none"> <li>Starting with 2015 performance plan, established performance plan by matching performance management system (performance goal-management tasks) with budgeting and funding programs as well as program groups.</li> <li>Starting with 2015 performance plan, started writing tax expenditures related to program groups when writing performance plan.</li> <li>Piloted PI board <ul style="list-style-type: none"> <li>* A signboard that constantly monitors and manages performance progress of fiscal programs (program groups) carried out by each department</li> </ul> </li> </ul>
'15	<ul style="list-style-type: none"> <li>Reformed voluntary evaluation from total confirmation/inspection method to meta-evaluation method</li> </ul>

Sources: National Assembly Budget Office, 「2015 Evaluation on Government Performance Plan (General-multiple departments)」, 2014. p. 26.  
Gong, Dong Sung, 「Performance Management – On Korean Policies」, Dae Young Co., 2013.  
Korea Institute of Public Finance, 「Public Finance Forum」, 「Performance Analysis and Policy Improvement Methods on Fiscal Program Evaluation Program」, 2014.12.  
Ministry of Strategy and Finance, 「2015 Guideline on Voluntary Evaluation on Fiscal Programs」  
Ministry of Strategy and Finance, 「2014 Guideline on Performance Report」  
Ministry of Strategy and Finance, 「2015 Guideline on Performance Report」  
Ministry of Strategy and Finance, 「Guidelines on Piloting PI Board」, 2014. 3.

## 2 Characteristics of Fiscal Performance Management System

The fiscal performance management system currently being operated in Korea as of 2015 consists of three policies: management of fiscal performance goals, voluntary evaluation of fiscal programs, and in-depth evaluation of fiscal programs.

### A. Management System for Fiscal Performance Goals

The management system for fiscal performance goals is a method of presenting performance indicators and target values for a program using performance management monitoring and of measuring performance based on the progress accomplished during the program period. This method is very intuitive and simple; those who carry out the program and those who assess its performance can easily write reports and understand it. Therefore, performance progress can be identified for almost all budget programs currently conducted by the government without spending very much on producing performance information or providing primary information on the accomplishment of performance and its problems, while examining government policies and budgeted programs systematically. Due to these strengths, almost all countries using a performance management system for fiscal programs use the monitoring information as a basic means of producing performance information.<sup>2)</sup>

In Korea, a system for managing fiscal performance goals was piloted for some divisions of government departments from 2000 to 2012, and performance plans and reports were written during this process. In 2003, some departments began writing performance plans, and, by 2006, all departments were doing so. Performance plans started to gradually expand their range beginning in 2003, and writing performance reports became mandatory in 2010.

However, even though performance plans and performance reports are

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2) A major example is the performance management system in the US, which is based on the GPRA (Government Performance and Results Act).

being submitted to the National Assembly as mandatory items today, the budgeting authorities are not actively using the information in these documents because it is too simple and does not contain adequate data on budgeting, though it helps to monitor the overall performance of budgeted programs.

## **B. Voluntary Evaluation of Fiscal Programs**

As an alternative to the management of fiscal performance goals, which is based on indicators and target values and where the information produced is inadequate for use in program performance management, a performance management system, which sets evaluation criteria for individual programs and reviews each one, was created.

The review method is the method of presenting the criteria deemed important by the budgeting authorities and relevant judgment criteria and of requesting the program departments to submit relevant materials and evidence. The system in Korea for producing performance information using the review method is the voluntary assessment of fiscal programs.

In general, the review method collects and analyzes existing performance information systematically rather than producing new performance information. Of course, new performance information may be produced in the review process if no performance indicators or target values have been set for existing fiscal programs and if no periodical program evaluation is being carried out, because such information needs to be newly created in order to produce a performance evaluation for the review method. <Table II-2> shows checkpoints on the voluntary evaluation of fiscal programs for 2015.<sup>3)</sup>

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3) For changes in the criteria for the voluntary evaluation of fiscal programs from 2004 to 2014, refer to Appendix 2

〈Table II-2〉 Common checkpoints for voluntary evaluation of fiscal programs (2015)

Stage	Evaluation item	Performance indicator	Points
Planning (20 points)	Appropriateness of program planning (10)	1-1. Is the purpose of program clear and does it comply with accomplishment of performance goals?	2.0
		1-2. Is the program unnecessarily similar to or overlapping with other programs?	3.0
		1-3. Are the contents of the program appropriate and does it have an efficient method of execution?	5.0
	Appropriateness of performance planning (10)	2-1. Are the performance indicators closely associated with the program purpose?	5.0
		2-2. Are the target values of performance indicators specific and rational?	5.0
Management (30 points)	Appropriateness of program management (30)	3-1. Were the budgets executed as planned?	15.0
		3-2. Is the program progress being regularly monitored?	5.0
		3-3. Have the problems in the program been solved?	10.0
Performance/ reflections (50 points)	Performance accomplishment and reflections on program evaluation results (50)	4-1. Have the target values for performance indicators been met?	30.0
		4-2. Has there been a program evaluation for examining program efficiency?	10.0
		4-3. Have the evaluation results and external feedback been reflected to improve the program structure?	10.0

Source: Ministry of Strategy and Finance, 「2015 Guidelines on Voluntary Evaluation on Fiscal Programs」, 2015. 1.

Source: Ministry of Strategy and Finance, 「2015 Guidelines on Voluntary Evaluation on Fiscal Programs」, 2015. 1. Starting in 2016, each department is responsible for conducting its own voluntary evaluation of fiscal programs, with the purpose of improving the autonomy and responsibility of each department. Previously, 1/3 of fiscal programs had been assessed every year. However, 1/2 of all fiscal programs are to be assessed in 2016 and 2017, and all fiscal programs are to be assessed starting in 2018. To reduce the evaluation burden of this expansion, indicators with small variability among the 11 to 15 evaluation criteria were simplified and combined into four criteria, as shown in <Table II-3>.

Each department is to evaluate the priorities of all responsible programs

and to prepare a tax expenditure restructuring plan independently. To prevent the inclination to conduct over-tolerant evaluations, a minimum restructuring goal for tax expenditure has been set at 1% of the total budget.<sup>4)</sup>

〈Table II-3〉 Independent evaluation indicators for voluntary evaluation of fiscal programs in 2016

Stage	Evaluation item	Evaluation indicator
Management	Appropriateness of program management	• (1-1) Has the budget been executed as planned?
		• (1-2) Was the program management appropriate for problems and changes in environment occurring in the process of the program?
Outcome	Accomplishment of target values and excellence in outcome	• (2-1) Have the targeted goals been accomplished as planned?
		• (2-2) Is the program outcome excellent, and are the program contents and methods efficient?
Plus points	(Common)	• Setting performance indicators as outcome indicators (for R&D, qualitative indicators)
	(General finance)	• Efforts for budget reduction and improved efficiency
	(Local development)	• Outcome of local developments, such as creation of local jobs and connected cooperation
	(Informatization)	• Operation of information system and innovation in works and services
	(R&D)	• Preparation and execution of policies on innovative programs • Selection of 100 outstanding outcomes and creation of global-level outcomes • Utilization of qualitative indicators for task evaluation

Source: Ministry of Strategy and Finance, 「2016 Guideline (proposal) on Integrated Evaluation on Fiscal Programs」, p. 6

4) The value of 1% of the total budget for program subject to evaluation was set under the consideration that the ratio of tax expenditure restructuring followed by the 10% budget reduction for poor or very poor programs, a measure for adjusting tax expenditure under voluntary evaluation on fiscal programs so far, was 1% on average.

### C. In-depth Evaluation of Fiscal Programs

Finally, the program evaluation method uses scientific analysis to evaluate whether the data appropriate for each program performance were prepared, whether the program accomplished the intended outcomes, how efficiently the outcomes were accomplished, and what were the reasons for nonfulfillment if the intended outcomes were not accomplished. The performance evaluation using this program evaluation method is the in-depth evaluation of fiscal programs.

The strength of program evaluation is that it derives information on program performance more objectively and scientifically. However, program evaluation requires much time and effort, and the programs that can be assessed by the evaluation are extremely limited. Therefore, there are limits to the government's use of program evaluation to evaluate budget programs comprehensively and to carry out restructuring. Still, it is meaningful to carry out program evaluation selectively on programs and policies that have issues and to establish a culture of conducting periodic program evaluations on major programs. If a program evaluation culture is established, the information required for evaluating program performance can be managed consistently.

When the in-depth evaluation policy for fiscal programs began, the budgeting authorities selected around 10 individual programs every year and conducted evaluations of program effectiveness and appropriateness of operation. However, to address the fact that evaluations of individual programs have difficulties measuring the performance of goals for larger units,<sup>5)</sup> where individual groups belong, in-depth evaluations began being conducted for program groups in 2010.

Conducting in-depth evaluations of fiscal program groups helps to understand which programs are making effective contributions to accomplishing superior policy goals (compared to in-depth evaluations of individual programs) and to examine similarities and overlaps among programs. However, as the number of programs subject to analysis increases, the precision of analysis required for program evaluations, such as those performed on individual

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5) This refers to goals equal or higher than strategic goals under the performance management system.

programs, has decreased accordingly because the data available for such analysis are lacking, and the methodology of analysis for program groups has not yet been developed, making the analysis very simplistic.

Thus, as the system started to evaluate program groups, it became more like a policy evaluation, seeking to improve policies and to increase the efficiency of budget expenditure, than a program evaluation in the strict sense. We are now examining policy directions by determining whether such changes comply with the original purpose of introducing the in-depth evaluation of fiscal programs as a fiscal performance management system.

The characteristics of the performance management system of fiscal programs in Korea are described below (as distinguished from those of other countries, which have been discussed so far).

First, the neutrality and independence of the evaluation are emphasized by internally separating the evaluating organization from budgeting. Although the Ministry of Strategy and Finance, which plans the budgets, manages performance management, Performance Management Headquarters and the Financing Office have been separated from the Budget Office in order to ensure the impartiality of the evaluation and to ensure the results are properly reflected in budgeting.

Second, performance outcomes have been directly connected to the budget. A performance-informed budgeting system has been established by reflecting the evaluation outcome directly in the budgeting for the next year, as guided by the budgeting guidelines based on the 「Framework Act on Public Service Evaluation」 and the 「National Finance Act」.

Third, an in-depth evaluation system has been introduced for fiscal performance evaluation in order to improve voluntary evaluation. As the voluntary evaluation of fiscal performance is a quantitative evaluation using indicators, issues requiring qualitative evaluations may be lacking. Therefore, non-quantitative factors are evaluated using an in-depth evaluation system to ensure a balance between quantitative and non-quantitative factors.

### 3 Order of Introduction of the Fiscal Performance Management System and Its Substructure

The fiscal performance management system was introduced as one of four major fiscal reforms, along with the National Fiscal Management Plan, Top-down Budgeting System, and Digital Budgeting & Accounting System. The fiscal performance management plan was introduced to be a major factor in changing the entire budgeting process by reflecting a mid-term perspective and strategic approaches to the governmental budgeting process, increasing the autonomy of major program departments, restructuring the government's budgeting structure according to policy purposes, and measuring, evaluating, and reflecting the outcomes of the government's fiscal operation and program operation.

Ideally, then, a fiscal performance management system provides information for use in making follow-up decisions regarding the appropriateness of the government's mid-term and strategic fiscal operation plans, as well as information on determining the effectiveness of such plans in helping individual programs accomplish their goals. Thus, a fiscal performance management system provides useful information for the macroscopic and microscopic process of the government's budgeting decisions.

Considering only the four major fiscal reforms of the central government, there is an ideal order for the introduction of each policy. The policy that needs to be introduced first is program structure and cost accounting because these two factors divide the government's budget into government policies and program goals, while developing information on the costs of policies and programs at the same time. Based on these two substructures, the extent of mid- to long-term budget planning, measurements for the performance of budgeted programs, and the level of budgeting autonomy to be granted to major departments can be determined.

As explained, Korea's central government introduced its fiscal policies using the Big Bang approach, whereby the policies are introduced together in a short period of time. The program budgeting structure was fully introduced in 2006, accrual basis accounting was introduced in 2009, and a digital budgeting

system (dBrain) was introduced in 2007. Prior to this substructure, a mid-term fiscal management plan was completed in 2005, and a top-down budgeting system was introduced in 2004. Moreover, a system of voluntary evaluations of fiscal programs, an important axis of Korea's fiscal performance management system, was started full-scale in 2005. Thus, various reforms of fiscal policies were carried out prior to establishing the substructure.

The fiscal reforms of the Participatory Government are very different from the previous ones, designed to be independent but connected at the same time in order to yield greater effects. Therefore, the Big Bang approach, which replaced all existing policies, was seen to be appropriate, and was thus used.

The Big Bang approach minimizes resistance against reforms and accomplishes budget reform in a short period of time. However, the strengths of the reforms may not harmonize with each other because the capabilities of individual organizations are limited, and communications among organizations are lacking, leading to inconsistencies among policies. In fact, Korea's four major fiscal reforms have had such problems.

In addition, although the substructure supporting the policy management needs to precede the policies, the opposite was the case in Korea. Of course, systems like the program budgeting structure and the digital budgeting and accounting system require much preparation and effort for their introduction. However, the original intention might have been served better had such policies been firmly established first before the introduction of the mid-term fiscal management plan, top-down budgeting system, and fiscal performance system.

The fiscal performance management system has been introduced largely according to order complexity—from the management system for fiscal performance goals, to voluntary evaluation on fiscal programs, and then to in-depth evaluations of fiscal programs. However, as with fiscal policy reforms, the fiscal performance management system was introduced without the preparation of substructures, such as the production of cost information and performance information, as well as the unification of the program budgeting structure and performance management system, preventing the performance management system from fully demonstrating the expected results. However, the substructure is now coming into shape, as the unification of the program budgeting structure and performance management system as well as the

development of cost information and digital accounting system has greatly progressed. Therefore, enhancements in programs under the fiscal management system, efficiency in expenditure, and an increased sense of responsibility are expected to show improvements.



# III

## Performance Analysis of Fiscal Performance Management System

### 1 Management System for Fiscal Performance Goals

#### A. Result-oriented fiscal management

Since the management system for fiscal performance was expanded to all departments in 2007, each department has written a performance report before each fiscal year begins and another performance report after the fiscal year ends. One major change under the management system for fiscal performance goals is that the program management system under each department has changed into a system for managing performance goals and enhancing the interest in and attitude of government officials about performance management (Oh, 2014). <Table III-1> compares the management system for performance goals between 2007, the beginning stage for the expansion of the system, and 2015, the current period.

**<Table III-1> Changes in program goals (performance goals) and performance indicators**

(Unit: Numbers)

	Strategic goals	Program goals (performance goals)	Area	Program units (management tasks)	Performance indicators
2007 (48 departments)	265	990	General finance	3,979	6,300
			R&D	185	618
			Informatization	362	651
			Total	4,526	7,479
2015 (52 departments)	183	508	General finance	1,770	4,008
			R&D	230	680
			Informatization	239	554
			Total	2,239	5,242

Sources: Park et al. (2008), 「Status and Policy Tasks of Fiscal Performance Management System」  
Ministry of Strategy and Finance, 「2015 Performance Report(General)」

The number of program-level performance goals was 990 in 2007, but this decreased to 508 in 2015. The number of management tasks at the program unit level, including general finance, R&D, and informatization, was 4,526 in 2007 but decreased to 2,239 in 2015. The number of performance indicators decreased from 7,479 in 2007 to 5,242 as well. Such changes have occurred along with the increased awareness of performance management for government fiscal programs to reduce overlapping or unnecessary fiscal programs and ensure efficient performance management.

The management system for fiscal performance has also contributed to the establishment of result-oriented administration through a systematic performance management under the management system for fiscal performance goals. As can be seen in <Table III-2>, the numbers and ratios of input, process, and output indicators have decreased while those of outcome indicators have increased from 2007, the initial stage of the policy, to 2015. In 2007, the number of outcome indicators was 2,826 out of 7,915, accounting for 35.7% of all performance indicators. However, 2015 data show 3,500 outcome indicators out

of 5,965, accounting for 58.6% of total indicators. This is a 22.9%p increase in outcome indicators over the rate at the initial stage of the policy, demonstrating that the management system for fiscal performance goals has shifted from production-centered management, which measures the amount of program activities, to a result-oriented management that emphasizes the practical effectiveness of the programs.

**<Table III-2> Changes in performance indicators from initial to present stage of the policy**

(Unit: Number, %)

Year	Number of indicators	Input	Process	Output	Outcome
2007	7,915	194(2.5)	856(10.8)	4,039(51.0)	2,826(35.7)
2015	5,965	254(4.2)	330(5.5)	1,881(31.5)	3,500(58.6)

Note: Ratios are in parenthesis

Source: Park et al. (2008), 'Status and Policy Tasks of Fiscal Performance Management System'

National Assembly Budget Office, '2015 Evaluation on Government Performance Plan' pp. 49-50

<Table III-3> and <Table III-4> show the changes in performance indicators of government fiscal programs under the management system for fiscal performance goals using more specific data for the most recent five years, from 2011 to 2015. First, performance indicators on performance goals for program units show little change in input indicators and process indicators from 2011 to 2015. However, output indicators have decreased and outcome indicators have increased significantly. The ratio of output indicators was 27.7% in 2011 and 40.7% in 2012, dropping to 19.2% in 2015. The ratio of outcome indicators was only 68.9% in 2011 and 49.4% in 2012 but reached 71.5% in 2015, exceeding 70% for the first time. There were six input indicators out of the entire 487 programs in 2011, accounting for 0.5% of the total amount, but reached 46 out of 508 in 2015, accounting for 6.4% of the total. Since input indicators focus on the sizes of the resources used, they need to be reduced in order to ensure result-oriented management.

**<Table III-3> Types of performance indicators for performance goals for the last 5 years**

(Unit: Number, %)

Fiscal year	Performance goals (programs)	Performance indicators of performance goals	Types			
			Input	Process	Output	Outcome
2011	487	1,273 (100)	6 (0.5)	37 (2.9)	353 (27.7)	877 (68.9)
2012	479	1,423 (100)	28 (2.0)	112 (7.9)	580 (40.7)	703 (49.4)
2013	467	656 (100)	15 (1.5)	25 (5.3)	158 (26.9)	458 (66.3)
2014	454	638 (100)	29 (4.6)	20 (3.1)	155 (24.3)	434 (68.0)
2015	508	723 (100)	46 (6.4)	23 (3.2)	139 (19.2)	515 (71.5)

Note: Ratios are in parenthesis

Source: National Assembly Budget Office, 「2015 Evaluation on Government Performance Plan」 p. 49

Next, outcome indicators of program units have increased consistently over the last five years. According to <Table III-4>, the ratio of outcome indicators was 54.5% in 2011 and 52.5% in 2012, but after five years (by 2015), it had increased to 56.9%. Process indicators and outcome indicators decreased over the five years: process indicators accounted for 7.5% in 2011, but the ratio decreased to 5.9%, by approximately 1.6%p, by 2015. Output indicators, which accounted for 36% in 2011, decreased by around 2.8%p to 33.2% in 2015. Moreover, just as input indicators have increased for performance goals, the ratio of input indicators increased in management tasks as well; as it more than doubled, from 2.1% in 2011 to 4.9% in 2015, the increase in input indicators by individual departments seems to require caution.

**<Table III-4> Types of performance indicator for management tasks (program units)**

(Unit: Numbers, %)

Fiscal year	Management tasks (program units)	Performance indicators of management tasks	Types			
			Input	Process	Output	Outcome
2011	2,087	4,660	98	353	1,676	2,533
		100	(2.1)	(7.5)	(36.0)	(54.4)
2012	2,164	5,084	82	322	2,011	2,669
		100	(1.6)	(6.3)	(39.6)	(52.5)
2013	2,192	5,219	106	270	1,889	2,944
		100	(2.0)	(5.2)	(36.4)	(56.4)
2014	2,184	5,355	215	299	1,917	2,924
		100	(4.0)	(5.6)	(35.8)	(54.6)
2015	2,239	5,242	208	307	1,742	2,985
		100	(4.0)	(5.9)	(33.2)	(56.9)

Note: Ratios are in parenthesis

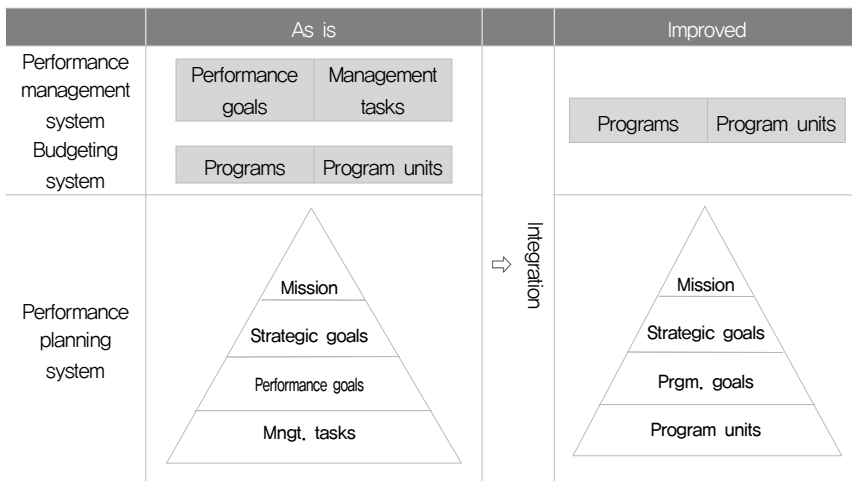
Source: National Assembly Budget Office, 「2015 Evaluation on Government Performance Plan」 pp. 50

## B. Agreement with Budgeting System

As can be seen in <Table III-5>, a major change in the management system for fiscal performance goals is that the government has combined the budgeting system and management system for performance goals to establish a program budgeting system. In the previous management system for performance goals, the budgeting system and performance management system had different units, limiting their capacity to clarify the responsibilities of fiscal programs by reflecting them in budgets. However, the budget code and performance management system were integrated in 2014, matching the preplanned performance goals and management tasks one-on-one with budgeting programs and program units. This integration allowed the goals and performance indicators of fiscal programs to be established according to the budget classification system. Starting with the performance plan in 2014, if the goals

of programs or program units can be accomplished using tax expenditures, the contents related to the expenditures are to be written in the performance plan in order to link the performance of tax revenue with that of tax expenditures.

〈Table III-5〉 Matching the system of writing performance plan and performance report with the system of budget code



Source: Oh et al. (2014) p. 43

### C. Program Improvement Effects

Along with the introduction of the management system for fiscal performance goals, individual departments are submitting performance plans and performance reports to the National Assembly every year, and the National Assembly is disclosing these on the website of the Special Committee on Budget and Accounts. The purpose of such submissions and disclosure of information is to increase the responsibility of each program manager in order to improve program performance. <Table III-6> shows an analysis of the recent outcome of the management system on fiscal performance goals from 2012 to 2014. First, about 20% of the fiscal programs have failed to accomplish their intended performance. Regarding performance goals, 555 out of 696 performance

indicators (79.7%) accomplished their target values in 2012, and 527 out of 671 performance indicators (78.5%) accomplished their target values in 2014, showing little change over the period. Regarding performance indicators of management tasks, 4,314 out of 5,152 performance indicators reached their target values in 2012, accounting for 83.7%. The ratio of performance indicators that accomplished their goals in 2014 was 81.2% showing a slight decrease. However, these data do not clearly show whether the performance of fiscal programs is improving because individual departments tend to change the indicators for programs with low rates of performance accomplishment to new ones.

**(Table III-6) Change in rate of accomplishment for performance indicators from 2012 to 2014**

(Unit: Number, %)

Type	Year	Number of indicators (A)	Accomplished (B)	Unaccomplished (C)	Rate of accomplishment (B/A)	Rate of unaccomplishment (C/A)
Performance goals	2012	696	555	141	79.7	20.3
	2013	660	521	139	78.9	21.1
	2014	671	527	144	78.5	21.5
Management tasks	2012	5152	4314	838	83.7	16.3
	2013	5205	4268	937	81.9	18.1
	2014	5360	4357	1003	81.2	18.8

Note: 1. Only indicators whose performance indicators have stayed the same for three years have been subject to analysis, in order to ensure equivalent comparison of three-year performance indicators.  
Source: Calculated by authors based on 「Performance Report on Central Departments(2010–2014)」(Internal data of Korea Institute of Public Finance).

Therefore, to analyze program improvement effects more accurately, the difference in performance improvement between programs that accomplished their target values and those that did not must be analyzed under the same performance indicators because the performance report of the management system for fiscal performance goals requires that the problems and improvement methods of programs be specified in order to improve program effectiveness. For such analyses, a t-test was used on approximately 2,100 performance

indicators for management tasks that had not changed from 2012 to 2014 in order to determine whether there are differences in the rate of change in target value accomplishment and target values<sup>6)</sup> between the performance indicators that accomplished their target values as of 2012 and those that did not.

Regarding the rate of change in target value accomplishment, the analysis at a significance level of 1% showed statistically significant average differences in target value accomplishment in 2013 and 2014 compared to that of 2012 under the 2012 performance indicators that accomplished their performance goals and those that did not. The rate of change in target value accomplishment in 2013 and 2014 relative to 2012 for performance indicators that did not accomplish their performance goals in 2012 were higher than the rate of change in target value accomplishment of performance indicators that accomplished their goals in the same period. The performance indicators that did not accomplish their target values in 2012 had their target value accomplishment rate increase by 13.3% on average. However, the value for performance indicators that accomplished their goals in 2012 was -4.52% on average, probably because departments strive to improve the effectiveness of programs with unaccomplished performance in the performance report.

However, departments that do not reach their target values tend to lower their target values in order to accomplish them in the following year. In this case, the target values of performance indicators that did not reach the target values are lowered intentionally, leading to a higher accomplishment rate for programs that did not reach the target values. Therefore, the same t-test used for the rate of change in target value accomplishment was carried out using the rate of change in actual performance values. The analysis result showed that the rate of change in performance values between 2012 and 2013 for performance values that did not reach their target values in 2012 was 11.4%, and the rate of change in performance values for performance indicators that reached the target values in 2012 was 7.06%. At a significance level of 5%, the rate of increase in performance values for performance indicators that did

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6) Programs whose rate of change in target value accomplishment and in performance values exceeded 200% were considered to be outliers and were deleted.

not reach the target values was higher by approximately 3.8%p, showing that departments are attempting to improve the performance of programs that did not reach their target values. However, the rates of change in performance values between 2012 and 2014 were 5.01% and 4.52%, respectively, showing little statistical difference. The rate of change in performance values for programs that did not reach the target values was actually lower, suggesting that, although departments strive to improve performance the first year after they fail to reach the target values, such efforts tend to diminish over time.

**<Table III-7> Analysis of average difference between indicators that did and did not reach their performance goals**

Variable	Year	Accomplishment of target values <sup>1)</sup>	N	Average	Standard deviation	Deviation error	Significance probability
Change in accomplishment rate	Δ2012~2013	Yes	1,825	-4.52	32.84	0.769	0.000
		No	318	13.3	27.46	1.540	0.000
	Δ2012~2014	Yes	1,821	-5.92	34.00	0.797	0.000
		No	316	12.3	28.46	1.160	0.000
Rate of increase in performance value	Δ2012~2013	Yes	1,819	7.06	29.57	0.694	0.018
		No	309	11.4	32.46	1.847	0.028
	Δ2012~2014	Yes	1,810	5.01	3.008	7.070	0.615
		No	317	4.52	3.672	2.062	0.662

Note: 1) The target value is accomplished if the target value accomplishment rate exceeds 100%.

Target value accomplishment rate in the subsequent year ( $100 \times \text{performance value} / \text{target value}$ ) - target value accomplishment rate in base year ( $100 \times \text{performance value} / \text{target value}$ )

Improvement in performance value:  $100 \times (\text{performance value in the subsequent year} - \text{performance value in base year}) / \text{performance value in base year}$

Source: Calculated by authors based on "Performance Report on Central Departments(2010~2014)" (Internal data of Korea Institute of Public Finance).

## D. Implications

Analyzing the performance of the management system for fiscal performance yields several implications regarding the reliability and validity of the performance indicators and their linkages with budgets. First, regarding

performance indicators, the fact that the outcome indicators measuring the final results of fiscal programs have increased while input, process, and output indicators have decreased means that the fiscal program management in Korea is shifting into a result-oriented management for providing actual benefits to citizens, which is an inspirational result.

Through such changes, the method of program management, which used to focus solely on executing the program budget determined under the item budgeting system, has changed into one that makes government officials value the outcomes of the programs. However, there are still areas to be improved in terms of the reliability and validity of the performance indicators because there are difficulties in setting the outcome indicators due to the characteristics of the public sector. Performance measurement using various indicators apart from outcome indicators needs to be carried out under appropriate program characteristics. For example, process indicators can be used for areas that emphasize procedure, such as foreign relations, defense, and safety. In addition, if costs are calculated accurately using accrual basis accounting, effects relative to costs ought to be measured using efficiency indicators.

The artificial adjustment of target values by individual program departments is an important issue for performance indicators. This issue has consistently been raised as a problem with the “appropriateness of target value” criterion under the voluntary evaluation of fiscal programs, and this study has indirectly identified the problem as well. The study found that the rate of change in target value accomplishment for programs that did not reach the target values was greater than that for programs that had reached them, possibly because the program manager had improved the outcome by lowering the target value in the subsequent year rather than by making actual improvements to the program. There are many cases where programs that do not reach the target values use a new indicator. Therefore, when examining the performance report, there needs to be appropriate examinations of the target values of performance indicators and the reasons for setting new indicators.

Meanwhile, even though the programs and program units of the budgeting system and the performance goals and management tasks of the performance management system have officially been unified, they still show discrepancies in their contents. Consistent reforms of budget items need to be made in order

to integrate budgeting items and the performance management system in a practical sense. After such a realistic integration, performance information ought to be included in budget requests by individual departments and the budget screening of the National Assembly in order to ensure increased utilization of performance information in the budgeting process.

## 2 Voluntary Evaluation of Fiscal Programs

### A. Status of Score and Grade Distribution

The voluntary evaluation of fiscal programs is assessed to have contributed to rationalizing the budgeting process by evaluating the performance of fiscal programs and reflecting the results in budgeting. Every year, 1/3 of programs subject to performance management are evaluated under the voluntary evaluation of fiscal programs using 11 questions (one for plus point) on general planning, execution, and outcome. Since the first voluntary evaluation on fiscal programs occurred in 2005, there have been seven amendments to the evaluation questionnaires and scoring.<sup>7)</sup> As shown in <Table III-8>, the most recent change occurred in 2012, separating the sections on monitoring and problem solution and converting the evaluation on increased efficiency to a plus point. The question on the effectiveness of program execution was also changed to a question on whether an evaluation for ensuring effective program execution was conducted.

When looking at the trends in the evaluation indicator scores for the three years indicated in <Table III-9>, points on planning was the highest, with over 80 points, among the points for planning, management, and performance converted to 100 points. Next, the converted points for management and performance were similar, from 50 to 60 points. As of 2014, the converted point for management was 61.7, and that for performance was 59.7. These results imply that, although performance in planning has improved, more efforts are needed to improve program effectiveness in the management and performance areas.

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7) Refer to Appendix 1

〈Table III-8〉 Change in evaluation indicators from 2012 to 2014

Stage	Evaluation criteria	Evaluation indicators (evaluation indicators in 2012)
Planning (20 points)	Appropriateness of program planning (10)	1-1. Is the purpose of the program clear and does it comply with the accomplishment of performance goals?
		1-2. Is the program unnecessarily similar or overlapping with other programs?
		1-3. Are the contents of the program appropriate and do they have an efficient method of execution?
	Appropriateness of performance planning (10)	2-1. Are the performance indicators closely associated with the program's purpose? 2-2. Are the target values of the performance indicators specific and rational?
Management (30 points)	Appropriateness of program management (30)	3-1. Were the budgets executed as planned?
		3-1. Were the budgets executed as planned?
		3-3. Have the problems that occurred in the program been solved? (Has the efficiency in accomplishing the goal been improved?) Currently an item for plus point
		Plus point: Efforts to reduce budget or improve efficiency
		3-Informatization①. Is the information system being appropriately operated and managed?
		3-Informatization②. Have there been efforts to solidify fair trade order?
Performance /reflections (50 points)	Performance accomplishment and reflections on program evaluation results (50)	4-1. Have the target values for performance indicators been met?
		4-2. Has there been a program evaluation for examining the program efficiency? (According to the result of the program evaluation, is the program being conducted efficiently?)
		4-3. Have the evaluation results and external feedback been reflected to improve the program structure?

Source: 「Guidelines on Voluntary Evaluation on Fiscal Programs」, 2012, 2013.

Analyses on the distribution of planning, management, and performance scores by the evaluation questionnaires are as follows. Items 1-1 (Clarity of program purpose), 1-2 (Overlaps), 1-3 (Efficiency in method), and 2-1 (Link between performance indicators and goals) accounted for a small number of points (below five). However, over 90 points out of 100 were acquired in these areas, which is a high level. Notably, almost every program acquired 100 points for questionnaire 1-1 (Clarity and appropriateness of program purpose), causing the questionnaire to lose its function as an evaluation indicator. Further, 2-1 (Link between performance indicators and goals) showed an average of over 93 points, indicating that the development and management of performance indicators by individual departments have reached a certain level.

Next, 3-2 (Monitoring), 3-3 (Solution of problems), 4-1 (Program performance), and 4-3 (Reflection of evaluations) showed around 70 points of out 100, a normal level. The average score for each area was 71 for 3-2, 69 for 3-3, 61 for 4-1, and 77 for 4-3. However, 2-2 (Appropriateness of target values), 3-1 (Rate of budget execution), and 4-2 (Execution of program evaluation) had very low scores, below 60, thus requiring more performance management. Specifically, 2-2 (Appropriateness of target values) received only 53 points in the 2013 evaluation. These results indicate that departments are still motivated to lower performance target values in order to receive good scores at evaluation. Therefore, they need to be induced to set appropriate target values at the planning stage. Further, 3-1 (Rate of budget execution) had 59 points in 2013. Although budgets may not be executed for inevitable reasons such as a change in environments, late budget execution or the allocation of excessive budgets is a problem in many cases; the rate of budget execution seems to need consistent management.

Finally, 4-2 (Program evaluation) received the lowest score, 36 points, because departments are not carrying out independent and effective program evaluations, as the necessity of an effective program evaluation has not yet been solidified. Moreover, due to such low awareness, departments do not allocate budgets separately for program evaluations, resulting in low scores. Therefore, conducting mandatory program evaluations for fiscal programs over a certain size, in accordance with the 「National Finance Act」 and other legislation, needs to be reviewed.

**<Table III-9> Scores by evaluation item for 2012 to 2014**

(Unit: Points)

Notes		2014 <sup>1)</sup>		2013		2012	
		Raw score	100-point basis	Raw score	100-point basis	Raw score	100-point basis
Planning (20)	1-1 (2)	2.00	100	2.00	100	2.00	100
	1-2 (3)	2.97	99	2.95	98	2.99	100
	1-3 (5)	4.83	97	4.76	95	4.80	96
	2-1 (5)	4.70	94	4.66	93	4.72	94
	2-2 (5)	3.17	63	2.51	50	3.19	64
	Planning score	17.7	88.4	16.9	84.4	17.7	88.5
Management (30)	3-1 (15)	8.0	53	8.86	59	8.35	56
	3-2 (5)	3.53	71	3.59	72	6.80	68
	3-3 (10)	6.89	69	7.07	71	0.60	12
	3-3(Plus point)	0.08	3	0.30	10	—	—
	Management score	18.5	61.7	19.8	66.1	15.8	52.
Performance /Reflection (50)	4-1 (30)	18.24	61	15.31	51	18.68	62
	4-2 (10)	3.92	39	3.62	36	3.96	40
	4-3 (10)	7.68	77	7.79	78	8.70	87
	Performance score	29.8	59.7	26.7	53.4	31.3	62.7

Note: 1) Fiscal programs subject to performance management according to a performance report carried out in year (t-1) were evaluated in year (t).

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs(2012-2014)」(Korea Institute of Public Finance)

As shown in <Table III-10>, the score distribution for the voluntary evaluation of fiscal programs by departments for 2012 to 2014 indicates that small departments such as agencies and committees receive high scores on average. Korea Customs received the highest score of 75.1 points. Five departments—the Korea Customs Service, Office of Government Policy Coordination, Anti-Corruption and Civil Rights Commission, Rural Development Administration, and the Korea Forest Service—received over 70 points. Four departments—the Ministry of Land, Infrastructure and Transport, Ministry of Health and Welfare,

Ministry of Gender Equality and Family, and the National Agency for Administrative City Construction—received poor scores of below 60 points on average for the three-year period. The National Agency for Administrative City Construction received the lowest score (58.9 points), while the Ministry of Land, Infrastructure and Transport and the Ministry of Health and Welfare received the second-lowest (59 points). Such results reflect the fact that the execution rates for construction and SOC-related programs are low, and that welfare programs are difficult to manage; thus, performance in these areas must be improved.

〈Table III-10〉 Score distribution for voluntary evaluation of fiscal programs by department for 2012 to 2014

(Unit: Points)

Department	Number of programs	1-1	1-2	1-3	2-1	2-2	3-1	3-2	3-3	3-3 extra points	4-1	4-2	4-3	Average
National Policy Agency	26	2.0	3.0	4.8	4.6	3.1	6.4	4.8	5.5	0.5	19.4	2.7	7.5	64.2
Ministry of Employment and Labor	105	2.0	3.0	4.8	4.8	3.2	8.3	3.8	5.3	0.2	17.2	4.2	7.8	64.4
Fair Trade Commission	8	2.0	3.0	4.4	5.0	4.3	6.9	4.1	5.9	0.0	25.3	0.0	6.4	67.3
Korea Customs Service	7	2.0	3.0	5.0	5.0	3.0	10.6	5.6	7.6	0.9	21.1	2.1	9.3	75.1
Ministry of Education	90	2.0	2.9	4.6	4.8	3.3	8.5	4.3	3.8	0.0	19.7	2.6	7.4	63.7
Ministry of Patriots and Veterans Affairs	25	2.0	3.0	5.0	5.0	3.7	8.1	4.8	5.3	0.0	19.9	4.0	7.9	68.6
Office for Government Policy Coordination	3	2.0	3.0	3.3	5.0	5.0	9.3	2.2	2.7	0.0	33.3	—	8.3	74.2

〈Table III-10〉 Continued

Department	Number of programs	1-1	1-2	1-3	2-1	2-2	3-1	3-2	3-3	3-3 extra points	4-1	4-2	4-3	Average
Anti-Corruption and Civil Rights Commission	6	2.0	3.0	5.0	5.0	4.2	8.2	5.0	3.8	1.5	23.8	0.8	7.9	70.1
Ministry of Defense	46	2.0	3.0	4.7	4.9	3.4	6.6	5.2	5.4	0.9	16.4	2.6	8.4	63.3
National Tax Service	10	2.0	3.0	5.0	5.0	3.7	9.0	4.2	5.7	0.0	19.8	1.5	7.1	66.0
Ministry of Land, Infrastructure and Transport	184	2.0	3.0	4.3	4.6	2.7	7.9	4.1	4.3	0.2	15.6	3.3	7.1	59.0
Financial Services Commission	14	2.0	3.0	3.9	5.0	3.2	6.7	4.8	5.1	0.3	19.2	4.3	8.7	66.2
Meteorological Administration	16	2.0	3.0	5.0	4.8	3.7	8.4	3.8	5.2	0.0	21.4	1.8	8.4	67.5
Ministry of Strategy and Finance	11	2.0	3.0	5.0	4.7	1.3	8.4	5.4	6.2	0.0	13.3	3.6	8.2	61.0
Ministry for Food, Agriculture, Forestry and Fisheries	83	2.0	3.0	4.8	4.6	3.2	8.2	4.4	4.2	0.2	16.1	6.4	8.0	65.1
Rural Development Administration	16	2.0	3.0	4.7	4.1	2.6	10.8	5.8	5.9	1.1	16.9	5.9	8.8	71.7
Cultural Heritage Administration	26	2.0	3.0	5.0	4.8	2.9	7.6	5.0	4.7	0.3	16.3	2.5	8.0	62.0
Ministry of Culture and Sports	104	2.0	2.9	4.8	4.5	2.9	8.0	4.2	4.4	0.0	18.5	2.5	7.6	62.3
Korea Communications Commission	36	2.0	2.8	4.4	4.7	3.2	9.9	4.1	4.0	0.0	21.5	0.8	6.8	64.4

〈Table III-10〉 Continued

Department	Number of programs	1-1	1-2	1-3	2-1	2-2	3-1	3-2	3-3	3-3 extra points	4-1	4-2	4-3	Average
Ministry of Justice	23	2.0	3.0	4.8	5.0	3.0	8.4	5.0	4.5	0.1	16.5	3.3	7.6	63.1
Office of Legislation	8	2.0	3.0	5.0	4.4	2.5	9.6	3.4	6.3	0.0	22.2	0.0	10.3	68.7
Military Manpower Administration	4	2.0	3.0	5.0	5.0	3.8	8.3	5.6	4.4	0.0	25.0	0.0	7.5	69.5
Ministry of Health and Welfare	155	2.0	2.9	4.5	4.2	1.8	7.7	4.7	5.3	0.0	13.9	4.1	8.0	59.0
Korea Forest Service	22	2.0	3.0	5.0	4.3	2.9	8.7	5.3	6.6	0.4	17.3	7.4	9.9	72.8
National Emergency Management Agency	16	2.0	2.8	4.1	4.5	3.2	8.6	4.9	3.2	0.0	22.7	4.3	6.8	67.0
Food Safety Office	17	2.0	3.0	5.0	4.7	3.5	7.7	3.4	3.4	0.0	22.7	4.2	7.4	66.9
Ministry of Gender Equality and Family	32	2.0	3.0	4.8	4.8	1.7	10.4	4.1	4.2	0.4	14.2	3.4	7.0	60.0
Ministry of Foreign Affairs and Trade	39	2.0	2.9	4.9	4.9	2.9	7.6	4.3	4.9	0.0	17.1	3.7	8.6	63.5
Public Procurement Service	5.0	2.0	3.0	5.0	4.0	1.0	5.0	5.9	6.3	1.2	11.5	8.0	8.5	61.4
Small and Medium Business Administration	48	2.0	3.0	5.0	4.7	2.1	10.7	4.3	5.2	0.0	14.8	4.0	8.5	64.3
Ministry of Knowledge Economy	89	2.0	2.8	4.6	4.7	2.9	10.0	4.1	3.4	0.1	16.7	3.3	6.5	60.9
National Statistical Office	14	2.0	3.0	5.0	4.6	3.3	8.4	4.6	6.3	0.0	17.6	3.0	6.1	63.8
Ministry of Unification	19	2.0	3.0	5.0	3.5	2.0	8.8	4.6	5.2	0.0	17.3	1.7	8.7	61.8

〈Table III-10〉 Continued

Department	Number of programs	1-1	1-2	1-3	2-1	2-2	3-1	3-2	3-3	3-3 extra points	4-1	4-2	4-3	Average
Korean Intellectual Property Office	15	2.0	3.0	5.0	4.6	2.0	9.6	5.1	6.4	0.5	16.0	3.7	8.1	66.0
Korea Coast Guard	12	2.0	3.0	5.0	4.6	3.9	5.2	3.8	5.8	0.3	20.9	3.8	8.3	66.5
Ministry of Maritime Affairs and Fisheries	36	2.0	2.9	4.2	4.7	3.1	7.8	4.5	4.3	0.2	19.6	1.9	7.6	62.8
National Agency for Administrative City Construction	7	2.0	3.0	5.0	4.3	3.6	7.4	5.0	5.0	0.0	12.3	—	11.2	58.9
Ministry of Environment	73	2.0	2.9	4.8	4.6	3.2	6.4	3.7	3.7	0.0	21.3	3.7	6.5	62.8
Ministry of Future Planning	621	2.0	2.9	4.6	4.5	2.4	8.4	3.2	6.3	0.4	15.4	3.1	7.0	60.3
Ministry of Trade, Industry and Energy	504	2.0	3.0	4.6	4.7	3.2	8.4	6.3	1.1	0.0	18.8	3.9	8.6	64.5
Ministry of the Interior	15	2.0	2.8	4.3	5.0	3.6	8.7	3.2	5.4	0.0	20.3	3.1	7.8	66.2
Ministry of Maritime Affairs and Fisheries	36	2.0	3.0	4.9	4.8	3.8	5.5	3.6	6.9	0.1	20.5	5.0	7.6	67.7
Average	50	2.0	3.0	4.7	4.7	3.0	8.3	4.5	5.0	0.2	18.8	3.2	8.0	65.2
100-point basis		99.9	99.1	94.8	93.1	60.4	55.1	90.2	49.7	7.9	62.7	31.9	79.6	65.1

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2012-2014)」 (Korea Institute of Public Finance)

The score grading for the voluntary evaluation of fiscal programs has changed over the past 10 years as well. The grading is classified into “very good” (over 90 points), “good” (over 80 points), “average,” “poor” (below 60 points),<sup>8)</sup> and “very poor” (below 50 points). <Table III-11> shows the distribution by grading for the past 10 years. From 2005 to 2007, the initial stage of the policy, the proportion of programs equal or above good was high (21.3-36%) while that of programs below poor was low (5.3-15.7%). In more recent voluntary evaluations, however, the proportion of programs above good fell to below 10% while that of programs below poor increased to around 20%. This indicates that the fiscal programs are being evaluated more stringently, unlike the tolerant tendency seen in the initial evaluations.

**<Table III-11> Score distribution by grading for fiscal programs**

(Unit: Number, %)

Evaluated year	Number of programs	Above good	Average	Below poor
2005	555 (100)	131 (23.6)	337 (60.7)	87 (15.7)
2006	577 (100)	124 (21.3)	388 (67.24)	65 (11.3)
2007	585 (100)	212 (36.2)	342 (58.5)	31 (5.3)
2008	384 (100)	55 (14.4)	226 (58.9)	103 (26.8)
2009	440 (100)	36 (8.2)	311 (70.7)	93 (21.2)
2010	552 (100)	26 (4.7)	393 (71.2)	133 (24.1)
2011	482 (100)	33 (6.8)	317 (65.8)	132 (27.4)
2012	474 (100)	32 (6.8)	330 (69.6)	112 (23.6)
2013	597 (100)	29 (4.9)	424 (71.0)	114 (24.1)
2014	400 (100)	27 (6.7)	298(74.5)	75(18.7)

Note: Weight is in parentheses.

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005–2014)」(Korea Institute of Public Finance).

8) Prior to 2008, programs below 50 points were considered poor. Starting in 2008, programs with 50 to 60 points are considered poor, and programs below 50 points are considered very poor.

## B. Effects of Voluntary Evaluation of Fiscal Programs in Connection with Budgeting

### 1) Reduction in budgets for poor programs

The major effect of the voluntary evaluation of fiscal programs is a reduction in budgets based on evaluation scores. Programs receiving scores below poor under voluntary evaluation had their program budgets automatically reduced by 10% for the subsequent year (t+1). Due to such forcible budget reductions, budgets amounting to approximately 4.88 trillion KRW were reduced from 2005 to 2014. <Table III-12> shows that fiscal programs evaluated to be poor based on the governmental plan have had their budgets reduced by 10 to 20% on average every year. The rate of reduction in the budget confirmed in the National Assembly is lower than the government plan because budgets that are reduced tend to increase in the process of congressional budget review.

〈Table III-12〉 Reduction in budgets for programs below poor for the past 10 years

(Unit: Number, KRW 100 million, %)

Evaluated year	Number of programs below poor	Budget in year t	Budget in year t+1		Rate of change in budget	
			Government plan	Congressional confirmation	Based on government plan	Based on congressional confirmation
2005	87	34,206	29,911	30,435	-12.6	-11.0
2006	65	11,463	5,428	5,408	-52.6	-52.8
2007	31	3,949	3,451	3,597	-12.6	-8.9
2008	104	56,855	46,610	45,896	-18.0	-19.3
2009	70	28,245	26,134	26,311	-7.5	-6.8
2010	116	38,232	33,104	33,445	-13.4	-12.5
2011	117	42,539	37,108	38,121	-12.8	-10.4
2012	97	18,161	14,695	14,704	-19.1	-19.0
2013	126	104,905	93,806	95,413	-10.6	-9.0
2014	75	37,905	34,266	34,331	-9.6	-9.4

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs(2005-2014)」 and 「Finalized Governmental and Congressional Budget(2006-2015)」, which are internal data of Korea Institute of Public Finance.

## 2) Analysis of scores and rate of change in budgets via voluntary evaluation of fiscal programs for the past five years

Multiple studies conducted in and outside of the country have shown a statistically significant relationship between the outcomes of the voluntary evaluation of fiscal programs and rates of change in budgets. For programs that received a poor grade through the voluntary evaluation, most studies<sup>9)</sup> have shown a negative (-) rate of increase between the rate of change in government budgets and the rate of change in congressional budgets. Most of the results show that, when controlling for program size (large-sized/small-sized), program method (direct execution/indirect execution), program characteristics (economic/welfare), time period (long-term/short-term), and program characteristics variables, the rate of increase in the budgets in the following year for programs that received a poor grade show statistically significant decreases. Foreign studies on the relationship between the US PART and the rates of change in budgets<sup>10)</sup> have shown that the PART score affects change rates in congressional budgets.

The difference between Korean studies and foreign studies is that poor programs under the voluntary evaluation of fiscal programs in Korea show a negative (-) rate of change for budgets (i.e., decreases), whereas the US PART shows higher rates of increase in budgets along with higher scores. This occurs because poor programs in Korea have their budgets forcibly reduced by 10%, whereas the US PART has no such regulation, resulting in a more flexible reflection of program outcomes in budgeting.

An interesting point in the relationship between voluntary evaluation scores and the rate of change in governmental and congressional budgeting is that programs that receive poor voluntary evaluation scores show a higher rate of decrease in government proposals than in the final congressional draft. This occurs because, in government proposals, budgets for programs below the poor level are faced with a mandatory reduction of 10% applied by the budgeting authorities, whereas more revisions occur in the final congressional draft, where

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9) See Park (2005), Park et al. (2008), Bang (2008), Yoon and Gong (2012), and Park and Choi (2010).

10) See GAO (2004) and Gilmour and Lewis (2006).

political considerations are made during budget review. A similar result was shown in the US, indicating that PART results are rarely used in congressional budget review. An analysis of the minutes of US congressional budget reviews by Frisco and Stalebrink (2008) showed that most congressional members do not utilize PART results in their budget review or budgeting.

Thus, this study uses Korean and US research to conduct a regression analysis on whether the grading in voluntary evaluations of fiscal programs between 2010 and 2014 has had statistically significant effects on the rates of changes in governmental and congressional budgets, which has not been analyzed in preceding studies. This is an attempt to conduct a statistical analysis on the latest data in order to check whether the results of voluntary evaluations of fiscal programs are still being reflected in governmental and congressional budgeting. Moreover, by analyzing the latest data, implications for policy improvements in the voluntary evaluation of fiscal programs may be obtained.

#### (1) Model and variables

First, the model was analyzed using the following equation:

$$Y = a + BX + CZ + e$$

Here, X refers to the evaluation grade under the voluntary evaluation of fiscal programs, and Z refers to control variables reflecting the other factors that can affect the rate of change in governmental and congressional budgets. Y refers to the rate of change in governmental and congressional budgets, indicating how much the budgets demanded by the government and those finalized in Congress at year (t+1) for programs subject to voluntary evaluation have changed in relation to the budgets in year t. The equations expressing these are as follows. First, assuming that  $\beta$  is the budget for a specific program unit, the rate of change in the budget demanded by the government and the rate of change in the budget finalized by the National Assembly are as follows (these two variables are the dependent variables of the analysis model):

$$Y1 = (\text{Rate of change in the budget demanded by the government}) = (\beta a(t+1) - \beta(t)) / \beta(t)$$

$$\begin{aligned} Y2 &= \text{Rate of change in the budget finalized by the National Assembly} \\ &= (\beta b(t+1) - \beta(t)) / \beta(t) \end{aligned}$$

Next, the explanatory variables used in the analysis are the grades for voluntary evaluations of fiscal programs, program characteristics (such as economic or welfare program), program execution method (such as direct program), and program size (such as large or small). First, the grades of the voluntary evaluation of fiscal programs were used as the independent variable, defining programs with grades of “very good” (over 90 points) and “good” (80 points) as programs “above good,” coding them with “1” and processing them as dummy variables. Similarly, programs that are “poor” (below 60 points) and “very poor” (below 50 points) were processed as dummy variables as programs “below poor.”

Additionally, control variables were measured using the program characteristics program execution method and program size. First, the characteristics of programs subject to voluntary evaluations of fiscal programs were classified as economic programs and welfare programs, to be used as dummy variables. In general, program characteristics are classified using the UN’s COFOG (Classification of the Functions of Government). However, this study had difficulty classifying the 2,000 programs subject to evaluation over the period of five years and thus used the information in Park et al. (2008) to classify and measure such programs. Programs of departments that mainly administer economy-related programs were classified as “economic programs,” and those that mainly administer welfare-related programs were classified as “welfare programs.” The economy-related departments are the Ministry of Construction and Transportation, Ministry of Agriculture and Forestry, Ministry of Commerce, Industry and Energy, Ministry of Science, ICT and Future Planning, and the Ministry of Maritime Affairs and Fisheries. The welfare-related departments are the Ministry of Health and Welfare, Ministry of Employment and Labor, and the Ministry of Gender Equality and Family.

Voluntary evaluation scores may change according to program execution method, resulting in differences among rates of budget changes. Moreover, since programs under the direct execution method are conducted directly by the government, the extent of budget maintenance or reduction may be small. Therefore, the execution method for programs subject to voluntary evaluations of fiscal programs was divided into direct programs and indirect programs; direct programs were processed as dummy variables, coded “1.”

Finally, the programs were divided by size (large vs. small) and processed as dummy variables. Since large programs are too big to fail, their budgets may not be reduced even if their outcomes are poor. Furthermore, even if their budgets increase by a sizable amount from the previous year compared to budgets for small programs, the rate of change might be smaller. Following the criteria of Park et al., this study defined large programs as those over 30 billion KRW and small programs as those below 2.5 billion KRW.

## (2) Analysis procedure and result

An OLS (Ordinary Least Square) regression analysis was conducted by setting the rates of change in governmental and congressional budgets as dependent variables and programs receiving grades above good and below poor under voluntary evaluations of fiscal programs as independent variables. Programs subject to voluntary evaluation between 2010 and 2014 (based on evaluation year) were analyzed. The fulfillment of the basic assumptions<sup>11)</sup> of OLS regression analysis was examined prior to analysis.

The analysis results show little difference from those of preceding studies. First, in every year, the result above good had no statistically significant influence on the rate of change in budgets for the following year. This differs from the results of foreign studies, where the PART score had a statistically significant influence on budget increases. This indicates that the method of reflecting voluntary evaluations of fiscal programs relies primarily on a negative method focusing on budget reduction.

At a significance level of 5%, the outcomes for programs below poor showed a statistically significant influence in every year on the rate of change in budgets demanded by the government. This proves that the results of voluntary evaluations of fiscal programs are being reflected in the budgeting of the central budgeting institution because the regulation on 10% budget reductions for poor programs has been kept for government budgets. In the final budget drafts finalized by the National Assembly, no statistically consistent pattern was found regarding

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11) Regarding multicollinearity, VIF was below 2 (standard of 10), thus below the standard. No normality or heteroscedasticity of the residual was found.

budget reduction. Even if the programs below poor under voluntary evaluations of fiscal programs in 2011 and 2012 may have reduced the rate of change in the budgets finalized by the National Congress, such effects were not statistically significant. The p-value in 2011 was 0.122, while it was 0.065 and 0.099 in 2010 and 2013, respectively, all exceeding the statistical significance level of 0.05. This occurs because, as mentioned, multiple political factors, in addition to voluntary evaluation scores, influence the process of congressional budget review, offsetting the effects of budget reduction via voluntary evaluation scores.

Among the control variables, none had a significant influence on the rate of change in governmental and congressional budgeting. However, the rate of change in budgets for large programs was high in 2010, with statistical significance, while the rate of change in budgets for small programs was high in 2012, indicating that the too-big-to-fail tendency has intensified, resulting in budget adjustments occurring primarily to small programs with little political influence, rather than adjustments to the budgets of large programs.

〈Table III-13〉 Results and rate of change in budgets for voluntary evaluation of fiscal programs in 2010

	Government		National Assembly	
	Estimate coefficient	p-value	Estimate coefficient	p-value
Above good	0.002	0.990	0.199	0.912
Below poor	−0.199	0.045	−0.021	0.065
Economic program	0.033	0.753	−0.184	0.512
Welfare program	0.192	0.142	0.070	0.165
Direct program	0.154	0.089	0.183	0.067
Large-sized	−0.216	0.029	0.167	0.015
Small-size	−0.074	0.481	−0.243	0.422
Constant	0.183	0.019	−0.085	0.012
adj. rsq	0.018		0.019	
obs	439			

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005-2014)」 and 「Finalized Governmental and Congressional Budget(2006-2015)」, which use internal data of the Korea Institute of Public Finance.

**〈Table III-14〉 Results and rate of change in budgets for voluntary evaluation of fiscal programs in 2011**

	Government		National Assembly	
	Estimate coefficient	p-value	Estimate coefficient	p-value
Above good	−0.014	0.965	−0.044	0.886
Below poor	−0.230	0.208	−0.277	0.123
Economic program	0.088	0.656	0.110	0.568
Welfare program	0.319	0.140	0.466	0.028
Direct program	−0.209	0.230	−0.292	0.088
Large-sized	−0.126	0.511	−0.154	0.415
Small-size	0.425	0.036	0.551	0.006
Constant	0.126	0.471	00.179	0.296
adj. rsq	0.008		0.030	
obs	381			

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005-2014)」 and 「Finalized Governmental and Congressional Budget (2006-2015)」, which use internal data of the Korea Institute of Public Finance.

**〈Table III-15〉 Results and rate of change in budgets for voluntary evaluation of fiscal programs in 2012**

	Government		National Assembly	
	Estimate coefficient	p-value	Estimate coefficient	p-value
Above good	0.037	0.682	0.076	0.562
Below poor	−0.177	0.003	−0.139	0.099
Economic program	0.015	0.788	0.110	0.159
Welfare program	−0.047	0.433	−0.092	0.282
Direct program	−0.047	0.322	−0.083	0.227
Large-sized	−0.078	0.156	−0.141	0.073
Small-size	0.118	0.043	0.154	0.066
Constant	0.144	0.008	0.198	0.012
adj. rsq	0.024		0.021	
obs	384			

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005-2014)」 and 「Finalized Governmental and Congressional Budget (2006-2015)」, which use internal data of the Korea Institute of Public Finance.

〈Table III-16〉 Results and rate of change in budgets for voluntary evaluation of fiscal programs in 2013

	Government		National Assembly	
	Estimate coefficient	p-value	Estimate coefficient	p-value
Above good	−0.063	0.527	−0.051	0.610
Below poor	−0.218	0.000	−0.190	0.000
Economic program	0.055	0.291	0.017	0.742
Welfare program	0.002	0.969	0.012	0.830
Direct program	0.101	0.024	0.075	0.095
Large-sized	−0.019	0.682	−0.016	0.733
Small-size	0.025	0.669	0.030	0.610
Constant	−0.021	0.675	0.011	0.824
adj. rsq	0.041		0.026	
obs	492			

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005-2014)」 and 「Finalized Governmental and Congressional Budget (2006-2015)」, which use internal data of the Korea Institute of Public Finance.

〈Table III-17〉 Results and rate of change in budgets for voluntary evaluation of fiscal programs in 2014

	Government		National Assembly	
	Estimate coefficient	p-value	Estimate coefficient	p-value
Above good	0.062	0.618	0.079	0.528
Below poor	−0.166	0.039	−0.184	0.024
Economic program	−0.090	0.270	−0.109	0.188
Welfare program	−0.008	0.918	0.010	0.891
Direct program	0.078	0.236	0.065	0.324
Large-sized	−0.011	0.875	−0.005	0.948
Small-size	0.161	0.054	0.184	0.029
Constant	0.021	0.773	0.024	0.745
adj. rsq	0.014		0.020	
obs	394			

Source: Calculated by authors based on 「Evaluation Scores on Voluntary Evaluation on Fiscal Programs (2005-2014)」 and 「Finalized Governmental and Congressional Budget (2006-2015)」, which use internal data of the Korea Institute of Public Finance.

### C. Implications

The management performance of voluntary evaluations of fiscal programs shows several implications. First, they reduce the budgets of programs below poor by 10%, contributing to a performance-based budgeting principle. However, as shown by the positive analysis, its effects are offset by various political factors occurring in the process of congressional budget review; thus, policy improvements need to be made in this area.

Another problem is that heavy burdens are imposed on departments preparing for the evaluation, but the budget reductions are not very large. As described, since 2005, when the policy started, a total of 4.8 trillion KRW has been reduced in programs below poor in the finalized congressional budgets. This is an average annual reduction of 480 billion KRW over 10 years, accounting for only 0.14% of the government budget in 2013 (346.6 trillion KRW). Under the top-down budgeting system, the total fiscal amounts given to individual departments are allocated beforehand, probably changing the sizes of the financing among program units within the departments rather than reducing the overall expenditures. Consequently, the financing authorities need to utilize policies such as the “Strategic Review” or “Spending Review” used in other countries to establish the scope of the required expenditure restructuring by evaluating the performance and priorities in the superior levels of sectors and areas, while delegating the authority for voluntary performance evaluations of program units.

Next, voluntary evaluations of fiscal programs lack a performance management system at the execution stage. Although reflections on the presence and results of monitoring are made through voluntary evaluation, they are merely follow-up evaluations, not a means of improving performance at the execution stage. Recently, the Ministry of Strategy and Finance established a performance management system at the execution stage using a PI board but faced difficulties in solidifying the policy due to an excessive number of subject programs and difficulty in setting process indicators every quarter. Therefore, individual departments should introduce execution performance management systems only for the indicators of core programs and examine other program units through periodical examinations, so that programs identified as having issues may be

investigated intensively by the financing authorities.

### 3 In-depth Evaluation of Fiscal Programs

#### A. Evaluation Status

In-depth evaluations of fiscal programs have been conducted since 2005 to make policy improvements to problematic fiscal programs using in-depth analysis. Evaluation teams consisting of experts in each area conduct in-depth evaluations of problematic programs using evaluation criteria of appropriateness (need for government intervention), effectiveness (program effect), and efficiency (effect in relation to cost). The evaluation subjects have shifted from individual programs to program groups since 2010.

〈Table III-18〉 Departments and number of evaluations per year for in-depth evaluations of fiscal programs

(Unit: Cases)

Year	Employment · Labor	Health · Welfare	Education	Agriculture · Marine products	SOC	Industry · Economy	Others	Total
2005	1					2		3
2006	1	1		3	2	2	1	10
2007	1		1	3		2	2	9
2008	1	2	2	2	1	2	1	12
2009	1	2	1	1	—	3	2	10
2010	5	—	—	—	—	2	—	7
2011	—	1	1	1	1	1	—	5
2012	2	1	—	1	1	3	2	10
2013	1	1	1	1	1	1	2	8
2014	—	2	—	—	—	2	3	7
소계	9	10	5	10	7	11	22	74

Source: Internal data of the Korea Institute of Public Finance on results of in-depth evaluations

As can be seen in <Table III-19>, evaluations on 74 programs and program groups have been conducted since 2015. In-depth evaluations were conducted primarily in the areas of Industry-Economy, Agriculture-Marine products, Health-Welfare, and Employment-Labor. The area that received the most in-depth evaluations was Industry-Economy, with 11 thus far. Agriculture-Marine products and Health-Welfare received the second-highest number of evaluations (10). Education received relatively few (5). These results mirror the fact that the welfare and agricultural sectors received low program performance scores in voluntary evaluations of fiscal programs.

<Table III-20> shows the analysis results for 52 programs subject to in-depth evaluations of fiscal programs from 2005 to 2011. Program overview was mentioned in most evaluations, but prior studies and overseas cases were mentioned in 21 and 35 evaluations, respectively. Only 15 evaluations described program performance. Similar programs were mentioned in 26 evaluations; after 2010, however, most reports started analyzing the issue of similar and overlapping programs because the evaluation shifted its subject to program groups starting in 2010. Regarding program evaluation types, most evaluations examined appropriateness, effectiveness, and efficiency, as regulated by the guideline. However, while the appropriateness topic, which examines the appropriateness of government intervention, was evaluated by all evaluations, efficiency was evaluated in only 43 evaluations. Whereas appropriateness can be evaluated qualitatively by the subjective judgment of the evaluator without using additional materials, evaluating efficiency requires materials for calculating costs, which are difficult to obtain, resulting in a limited scope of evaluation.

**<Table III-19> Analysis of programs (groups) subject to in-depth evaluation of fiscal programs from 2005 to 2011**

(Unit: Numbers)

Program overview	Program content					Program evaluation		
	Delivery system	Preceding studies	Overseas cases	Similar programs	Business performance	Appropriateness	Effectiveness	Efficiency
52	38	21	35	26	15	52	49	43

Source: Internal data of Korea Institute of Public Finance regarding results of in-depth evaluations

Next, an analysis on the methodology for in-depth evaluations reveals that most evaluations rely on qualitative methods such as literature searches, surveys, and specialist investigations. Quantitative evaluation methods such as regression (panel) analysis, difference-in-differences method, and quasi-experimental design were relatively few, and the random true experimental design, which can measure program effects most effectively, was not used at all. The evaluation method used most frequently was the literature search (conducted in 19 evaluations, thus accounting for 31.1% of all methods used). The second-most frequently used evaluation method was the survey, used in 11 evaluations. The quantitative methods of regression (panel) analysis and difference-to-differences method were used in six and five evaluations, respectively, accounting for 9.8% and 8.2% of total evaluations. Quasi-experimental design was used in one evaluation. Three other evaluations used comparison groups and conducted preliminary and follow-up comparisons.

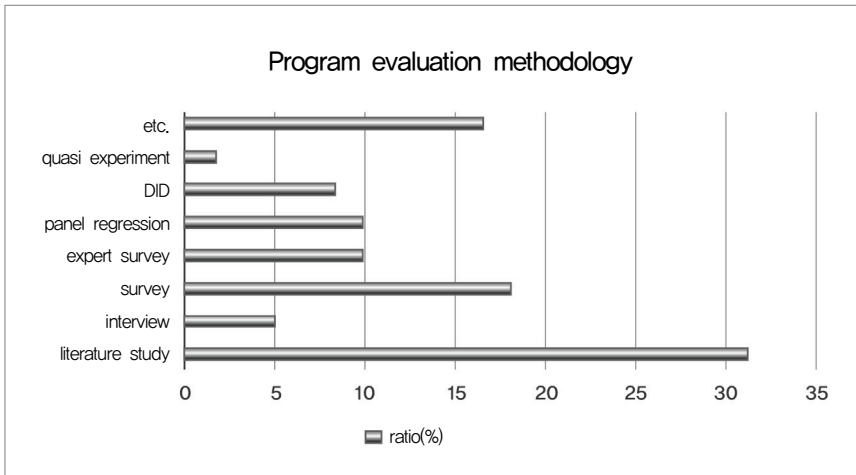
〈Table III-20〉 Types of methodology used in in-depth evaluations of fiscal programs from 2005 to 2011

(Unist: Times, %)

Method used	Literature survey	Interview	Survey	Expert investigation (AHP, delphi)	Regression (panel) analysis	Difference-to-differences (DID)	Quasi-experimental design	Others
Number <sup>1)</sup>	19	3	11	6	6	5	1	10
Ratio	31.1	4.9	18.0	9.8	9.8	8.2	1.6	16.4

Note: 1) Multiple methodologies could be used in an evaluation, allowing for overlap.  
Source: Calculated by authors based on 「In-depth Evaluation Report (2005-2011)」, using internal data of the Korea Institute of Public Finance

**[Figure III-1] Ratio of program evaluation methodology for in-depth evaluations of fiscal programs**



Source: Calculated by authors based on 「In-depth Evaluation Report (2005-2011)」, using internal data of the Korea Institute of Public Finance.

## B. Effects of In-depth Evaluation of Fiscal Programs

In-depth evaluations of fiscal programs have contributed to improving program effectiveness by reducing budgets for ineffective programs through their abolition or reduction and by recommending policy improvements. <Table III-21> shows the outcomes of in-depth evaluations of fiscal programs announced by the Ministry of Strategy and Finance. From 2007 to 2012, budget reductions amount to approximately 1.3 trillion KRW across 24 programs. To improve the outcomes of ineffective programs, 329 improvement points were identified from 2008 to 2012 through in-depth evaluations and recommended to individual departments for outcome improvement. Among these recommendations, 166 policy improvements have already been reflected in improved program outcomes; 144 recommendations are going through follow-up measures for policy improvement, while 19 are under review for future policy improvements.

〈Table III-21〉 Outcome of in-depth evaluations of fiscal programs

Means of reflection	Outcome
Budgeting	Reduced approximately 1.3 trillion KRW across 24 programs from 2007 to 2012
Program improvement	Presented 329 improvement points from 2008 to 2012; 166 points have been reflected in policies 144 points are going through follow-up measures for policy improvement; 19 points are to be reflected in future policy improvements

Source: Ha (2013, p. 45), Park (2015), report on findings of Korea Institute of Public Finance

Although the overview on the effects of budget reduction and policy improvements are being announced by the financing authorities, no materials have analyzed the effects of in-depth evaluations in detail using specific data. As a result, this study indirectly analyzed the effects of the in-depth evaluations of fiscal programs in 2012 using the changes in performance target values and actual performance values for programs subject to the evaluations. When the performance values of programs subject to in-depth evaluations increased after the evaluations, it can be inferred that such evaluations were effective in improving program outcomes. First, the management tasks that went through in-depth evaluations in 2012 were identified through the performance reports of 52 departments. Then, an analysis of how the performance values of the performance indicators for those management tasks have changed in 2013 and 2014 was carried out. Moreover, the rate of change in target value accomplishment for the performance indicators of management tasks subject to in-depth evaluation<sup>12)</sup> as well as the rate of change in their performance values were compared with the rate of change in target value accomplishment for the performance indicators of general management tasks that did not go through in-depth evaluation as well as the rate of change in their performance values.<sup>13)</sup>

12) As with the analysis of the management system for fiscal performance goals, programs whose rates of change in target value accomplishment rate and in performance values exceed 200% were considered to be outliers and were deleted.

13) Comparisons between two groups are generally conducted using a t-test. However, since the number of performance indicators for management tasks subject to in-depth analysis was 91, only 4% of all performance indicators subject to analysis, average values were compared without conducting a t-test.

The analysis result showed that the rate of change in the target value accomplishment rate for the performance indicators of management tasks that went through in-depth evaluation in 2012 was higher than that of the general management tasks. The rate of change in the target value accomplishment rate from 2012 to 2013 for programs subject to in-depth evaluations (0.55%) was 2.63% higher than that of the general management tasks (-1.98%). The rate of change in target value accomplishment from 2012 to 2014 had negative (-) values for the performance indicators of all programs, but the reduction of the rate of change in target value accomplishment was lower for programs that went through in-depth evaluations than for programs subject to general management tasks.

〈Table III-22〉 Comparison of rates of change in target value accomplishment and in performance values for programs subject to in-depth evaluation

(Unit: Number, %)

Variable	Year	Subject to in-depth evaluation	N	Average
Rate of change in target value accomplishment	△2012-2013	Management task subject to in-depth evaluation	91	0.55
		General management task	2038	-1.98
	△2012-2014	Management task subject to in-depth evaluation	91	-0.41
		General management task	2036	-3.35
Rate of change in performance value	△2012-2013	Management task subject to in-depth evaluation	91	6.04
		General management task	2052	7.76
	△2012-2014	Management task subject to in-depth evaluation	91	7.20
		General management task	2046	4.76

Note: Target value accomplishment rate in the subsequent year ( $100 \times \text{performance value} / \text{target value}$ )  
 - Target value accomplishment rate in base year ( $100 \times \text{performance value} / \text{target value}$ )  
 Improvement in performance value:  $100 \times (\text{performance value in the following year} - \text{performance value in base year}) / \text{performance value in base year}$ .

Source: Calculated by authors based on 「In-depth Evaluation Report (2005-2011)」, using internal data of the Korea Institute of Public Finance.

However, as could be seen in the effectiveness analysis of the management system for fiscal performance goals regarding programs that did not accomplish their target values, the target values of the performance indicators for programs subject to in-depth evaluation can also be lowered in the evaluation for the following year, resulting in an increase in the target value accomplishment rate. Therefore, to ensure a more accurate comparison, the rates of change in performance values in 2013 and 2014 in relation to 2012 were compared between the performance indicators of management tasks subject to in-depth evaluation and those of general management tasks. The analysis result showed that, between 2012 and 2013, the rate of change in the performance values of performance indicators for general management tasks (7.76%) was actually higher than that of programs subject to in-depth evaluation (6.04%). However, regarding the rate of change in performance values in 2014 in relation to 2012, that of programs subject to in-depth analysis was 7.20%, while that of programs with general management tasks was 4.76%, indicating that the rate of change for programs subject to in-depth evaluation was higher by approximately 2.44%p. This may have resulted from the fact that the time required to carry out an in-depth evaluation is usually more than one year; thus, the 2012 in-depth evaluation was completed in 2013, and its effects appeared the following year (2014).

### C. Implications

This analysis of the performance outcomes of in-depth evaluations leads to the following implications. First, the programs subject to in-depth evaluations are concentrated in certain areas, such as Industry/Economy, Health/Welfare, and Agriculture/Maritime products. Of course, the outcomes of the fiscal programs in such areas are poor, but a greater variety of programs should be subject to in-depth evaluation. A system of preliminary notice may be used to carry out robust preliminary investigations of problematic programs and program groups. One potential method would be to create a pool of programs that continue to receive poor grades in performance reports or voluntary evaluations and analyzing them in preliminary investigations in detail to increase the connectivity among policies.

Next, its limitations include a limited methodology focused on literature searches and surveys. This problem occurs because accessing or obtaining relevant data during in-depth evaluations is very difficult. Therefore, the procurement or production of data by individual departments may need to become mandatory. In addition, to carry out in-depth evaluations more stringently, programs should be designed in a more sophisticated manner to facilitate the evaluation process, or the scope of in-depth evaluations, which currently use program groups, could be expanded to include large problematic programs.

Finally, although the analysis result showed that in-depth evaluations in a single fiscal year were partially effective in improving program outcomes, this result was not analyzed in detail using statistical techniques over multiple fiscal years. Therefore, to verify the effectiveness of in-depth evaluation, data on the effects of budget reductions and program improvements for programs that went through the evaluations need to be managed and disclosed systematically in order to increase the effectiveness of in-depth evaluations.

# IV

## Policy Implications and Conclusion

### 1 Outcomes and Improvement Points of Fiscal Performance Management System

The fiscal performance management system aims to increase transparency and responsibility, improve program effectiveness and efficiency, and ensure the rational allocation of resources. This study has analyzed the utilization of evaluation outcomes for budgeting and tracked the extent of improvements in the evaluated programs. The results showed that the programs that received evaluation grades below poor experienced budget reductions. Tracking the evaluated programs indicated that multiple programs were showing improvement after the evaluations. Much improvement was being made not only in evaluation scores but also in specific program information, program management, and the accomplishment of goals. Such results indicate that the management system for fiscal program performance is not merely an administrative process without effects on reality.

Despite such positive primary discoveries, there are still points for improvement. The first concerns transparency and responsibility. Improvements can also be made in the program budgeting structure, which is the basis of the fiscal performance management system, since much of it has been structured to fit the purpose of performance management. Although the program budgeting structure and performance goal management system have been formally unified, the program budgeting structure still has limitations in serving its purpose of practical performance management and evaluation. A major issue here is that

it is not easy to track the programs: similar programs can change their names and seem new. Therefore, it is not easy to track the changes in programs and to reflect them in budgeting by managing the records of individual programs. There is a need to use a system that examines the linkage and compatibility with the existing program budgeting structure when changing the names of programs or introducing new ones. Since the difficulty in tracking arises because program departments determine the coding and names of new programs, a central system needs to manage the names and coding of new programs. This would address a problem that reduces the transparency of the performance management of fiscal programs.

To address the issue of responsibility, a government-made policy for evaluating fiscal program performance is needed. The current management system for fiscal program performance operates on working-level officials. Some high-level decision-makers do not even know about the existence of the system, and decision-making for performance information is not being properly carried out, being used merely to reduce the budget according to regulations. Therefore, the responsibilities for producing and utilizing performance information should nominally be conferred onto high-level decision-makers and be linked with specific factors. An evaluation system for the establishment and utilization of the organizational management system, such as Canada's Management Accountability Framework, could be introduced to link results with the remuneration given to high-level decision-makers. There is also a need to make improvements by delegating more authority and responsibility to individual departments from the centralized fiscal performance management system. Since 10 years of experience in operating the system has been accumulated, there is now a need to strengthen the sense of ownership and capabilities for individual departments. As the confusion and difficulties in the initial stage of the policy have been overcome through the centralized policy, the capabilities of departments need to be enhanced by having them utilize the evaluation outcomes and prepare program improvement points in order to improve program effectiveness and consistency. One problem with operating in-depth evaluation is that it is difficult to produce data systematically and to derive policy improvement points without making active participation efforts and having a sense of ownership. Therefore, there is a need to prepare a system that assigns

proactive roles and authority to departments in voluntary evaluations and in-depth evaluations of fiscal programs.

Second, improvements should be made to program effectiveness and efficiency. Although accrual basis accounting has been introduced, information on program efficiency is not being produced or utilized. The cost information being produced via accrual basis accounting remains at the program-level, and indirect costs are not being allocated under the general accounting system, thus producing no cost information for program units, which are the actual subjects of management. Since one of the major purposes of introducing a comprehensive accrual basis accounting is to utilize cost information for the fiscal performance management system, improvements should be made in this area. Although efforts have been made to improve cost information, no specific guidelines have been prepared for this matter.

Many improvements have been made in program effectiveness, such as in program performance information, the program management system, and the accomplishment of target values. The fiscal performance management system works as an external factor influencing results-oriented program management. However, the motivation for carrying out the programs responsibly is weak, since employment positions are changed almost every year under the government system. Although points for program improvement are being made and conducted on paper, they are not being utilized properly under a system that monitors and reflects them, as they may be superficial and merely outcome-oriented. Many improvements are being made superficially rather than in a way that solves fundamental problems and improves program effectiveness. Therefore, to ensure that effective program improvements are made using the fiscal performance management system, the government's personnel management must be improved to pursue more fundamental program improvement.

Finally, the fiscal performance management system is making symbolic contributions to ensuring a rational allocation of resources. Budgets are being reduced for programs that receive grades below poor. However, these reductions are limited, as they merely provide a punitive incentive for individual programs; only 0.3% of the budgets for the evaluated programs are being reduced every year. Although a 10% reduction seems large for individual programs, little spending restructuring is occurring in terms of the total budgets for programs

subject to evaluation. Park (2012) discovered that budgets for programs that receive poor grades tend to become smaller than budgets for programs with other grades over time. In other words, the trend whereby small-sum programs receive poor grades strengthens over time, possibly due to strategic actions taken by program departments. Such discoveries indicate that the effects of the fiscal performance management system may not be strong in terms of spending restructuring and budget allocation. These limitations may also be related to how the policy was introduced. It was introduced in Korea to improve the sense of responsibility among individual departments as an alternative to a top-down voluntary budgeting system. Therefore, it may lack policy design for resource allocation. In the initial stage of the policy, financial conditions were not worsening, so its asset allocation purpose was not emphasized. Now that 10 years have passed, however, this purpose is being emphasized as an important issue because the need for a fundamental examination of fiscal spending is growing due to the rapid expansion of welfare programs. Moreover, every new government requires fiscal space for its new policy agenda. Operating the policy while creating this new fiscal space requires improving the performance evaluation and management system, which focused on existing individual program units.

A spending review method that has been used in many countries to respond to financial crises ought to be considered. There is a need to establish a system that derives scenarios for creating fiscal space objectively by conducting fundamental reviews of existing fiscal spending. Since Korea's current national fiscal management plan is not a specific spending plan connected to actual programs, we need to consider introducing such a spending review policy to create fiscal space by analyzing at the level of area or sector, not on that of individual departments. However, if such evaluations and analyses are made on the level of areas or sectors, we need to prepare responsive policies for the following issues.

First, what are the differences between the investment directions by area between the strategic analysis policy and national fiscal management plan? What are its differences with the working team managed by the national fiscal management plan in setting the investment directions by area?

Second, in the process of deriving specific investment priorities and mid-

to long-term investment directions in a strategic analysis policy, how will the adjustments with political priorities be made? Previous fiscal program evaluation policies, which used to focus on program units or program groups, tended to examine and evaluate the effectiveness of program methods, thus creating little conflict with political priorities. However, this issue may newly arise when dealing with investment priorities on the level of areas or sectors. Most countries that use a spending review or strategic analysis have a parliamentary system, whereby the government carries out the spending review or strategic analysis with the support or agreement of the legislature. Under the presidential system, however, where the legislative body and executive body are clearly separated, what method should be used to hold preliminary discussions with the legislative body while carrying out the strategic analysis?

Third, in a strategic analysis policy, what will be the roles of major stakeholders in the process of deriving investment priorities by area or sector? How will the execution system be established? Currently, departments establish mid- to long-term investment plans for areas and sectors. What will be the relationship of the policy with the mid- to long-term plans devised by existing departments? If strategic analysis is carried out by coordinating with administrative departments, how will the roles be divided?

Fourth, how will the expertise on the required areas or sectors for carrying out an effective strategic analysis be acquired?

Finally, if the current fiscal performance management systems are strengthened and turned into systems for restructuring the spending of program units or program groups, how will they be connected and share roles with the new strategic analysis policy?

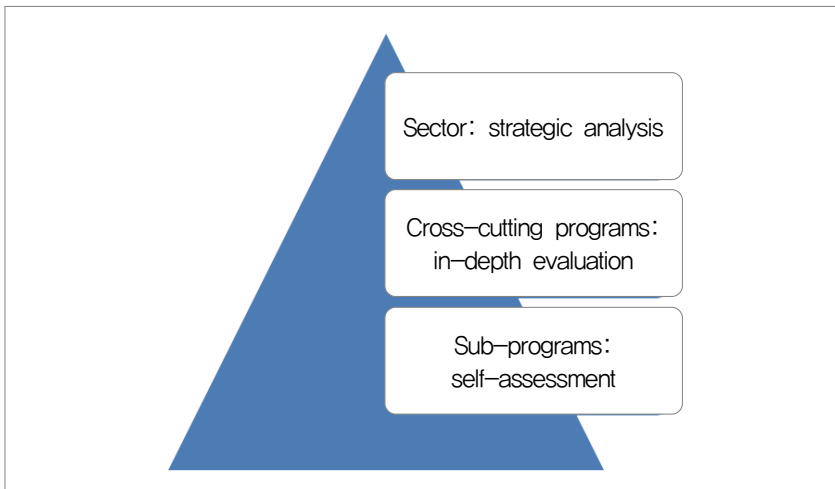
## 2 Method of Introducing Strategic Analysis for Resource Allocation (tentative)

A tentative strategic analysis system focusing on spending restructuring is as follows.

First, the areas or sectors under the program budgeting system are set as subjects of analysis. Through the analysis, the appropriateness of existing fiscal investment directions for specific areas or sectors should be evaluated, and priorities and investment strategies for future mid- to long-term investments should be established. In the process of establishing a national fiscal management plan, investment directions among areas and sectors should be established. In strategic analysis, investment priorities as well as mid- to long-term investment directions should be established by analyzing each area and sector.

The core purpose of strategic analysis is to carry out critical analysis of existing fiscal investment directions and derive mid- to long-term directions by analyzing the spending and outcomes of existing programs in order to respond to environmental changes.

[Figure IV-1] Strategic analysis as an axis of fiscal program evaluation policy



〈Table V-1〉 Evaluation focus of fiscal program evaluation policy

Evaluation policy	Evaluation subject	Evaluation method	Evaluation focus
Strategic analysis	Area, sector	Cooperate with Ministry of Strategy and Finance, individual departments, and experts; conduct evaluation through standing committee and working teams	Evaluate previous investments and derive mid-to long-term investment directions
In-depth analysis	Program groups of multiple departments	Cooperate with Ministry of Strategy and Finance, individual departments, and experts; delegate authority for evaluation to expert groups	Evaluate program improvement within program group and carry out restructuring of program groups
Voluntary evaluation	Program unit/program	Voluntary evaluation by individual departments ⇔ Meta-analysis by Ministry of Strategy and Finance	Evaluate individual program units; reflect the results in budgeting of program units

Source: the authors

The time period and cycle for carrying out the strategic analysis is as follows. In the initial stage of the policy, areas or sectors with major issues are selected, and strategic analysis is conducted. After the methodology and execution system of strategic analysis stabilize, a system is operated that conducts periodical updates on major areas and sectors that need consistent monitoring, and relevant measures are taken of sectors with constant issues according to policy demand. Periodical updates are made by monitoring the outcome every year, with strategic analysis conducted at least every three to five years.

A system of operating a comprehensive strategic review on a cycle of five years, a presidential term, may be considered. Strategic analysis can be carried out ① by area or sector to reflect the public promises of the new president and ② to derive scenarios for spending restructuring by reflecting the public promises of major political parties prior to election. For reference, the Netherlands introduced the Comprehensive Expenditure Review (2012) prior to an election to derive scenarios for reducing expenditures in 20 areas by 20%

in order to create the fiscal space required to reflect the public promises of political parties. For simple strategic analysis and annual updates, analysis results can be derived according to the budgeting cycle.

The execution system for strategic analysis is as follows. The Ministry of Strategy and Finance shall establish the framework and methodology of strategic analysis and operate the analysis process. The factors that should be included in the framework and methodology of strategic analysis are the evaluation focus for areas and sectors subject to evaluation, the factors of spending restructuring that should be included in deriving mid- to long-term investment strategies, evaluation schedule, and the process for deriving and confirming evaluation outcomes.

A steering committee responsible for setting the agendas for individual strategic analyses and monitoring the evaluation process may be established in order to strengthen public confidence and restrain the strategic analyses. The head of the steering committee shall be a neutral person with no vested interests in the area. The steering committee shall approve the execution plans, including the framework and agenda of the strategic analyses, monitor the analysis process, and approve the analysis outcome. For strategic analyses in areas or sectors with a high need for the reflection of political priorities, specialists who can represent the opinions of political parties may be included on the steering committee.

Program departments shall carry out the strategic analysis by coordinating with the Ministry of Strategy and Finance according to the framework and methodology of strategic analysis that have been established by the Ministry. Rather than taking a one-sided bottom-up or top-down method, a joint review system shall be used. However, the sharing of roles should still be made clear.

There is a need to clearly establish the main body that shall prepare the initial draft of the evaluations of past investments and future mid- to long-term investment directions. The departments that have been making mid- to long-term investment strategies for specific areas or sectors can prepare the initial drafts. However, for areas or sectors where no mid- to long-term investment strategies have been established, the Ministry of Strategy and Finance may take a leading role in preparing the initial draft by coordinating with specialists.

A working team consisting of managers from the Ministry of Strategy

and Finance and individual departments, specialists in performance evaluation and analysis, and field specialists shall be established to carry out individual strategic analyses. Even if strategic analysis is conducted through joint review, the challenging function of the financing authorities should be applied to ensure a meaningful strategic analysis. Acquiring professionalism in the area or sector is a critical step in enabling the financing authorities to properly carry out their challenging functions. A separate organization within the financing authority or a professional institution may perform such roles.

The results of the strategic analysis should be derived and adopted as follows. As a general rule, the working team shall come up with an agreement. If there are differing opinions among individual departments, the Ministry of Strategy and Finance or specialists shall list all the scenarios for the agreement to be determined by the steering committee. Here, the decision-making criteria of the steering committee regarding the multiple scenarios need to be clarified.

The strategic analysis will enable coordination between the Ministry of Strategy and Finance and the program department for establishing mid- to long-term investment plans by area and sector and will enable resource allocation according to such investment plans in the budgeting process. Currently, mid- to long-term investment plans by area and sector are established by individual departments, but there are still limitations in connecting them with budget distribution or the budgeting process. If mid- to long-term investment plans by major area and sector are derived through the strategic analysis, a more practical mid- to long-term investment plan that is closely connected with the actual budgeting process may be achieved.

Incentives may be required to improve the sense of ownership over strategic analysis among individual departments. This may be done based on the result of the strategic analysis by improving the predictability of the mid- to long-term budget allocation.

The current fiscal program evaluation process is limited in that it focuses on spending restructuring based on past performance in the formation of program units and program groups; strategic analysis may be used to address this limitation by generating a future-oriented resource allocation method.

To ensure the effectiveness and sustainability of strategic analysis, the analytical capabilities of the relevant area and sector, as well as communication

among policy stakeholders, need to be strengthened. Strategic analysis can produce meaningful outcomes only when appropriate performance information about the relevant area and sector has been accumulated through a government-wide fiscal program evaluation method (Park, 2013). The Ministry of Strategy and Finance needs to develop and share guidelines on evaluating fiscal programs, make the submissions of annual evaluation plans by individual departments mandatory, and monitor the methodology, process, and results of the evaluations. A separate organization within the Ministry or a professional research institution shall develop policies related to evaluations and monitor the evaluation activities of individual departments. In ordinary times, program departments need to conduct periodical in-depth evaluations to ensure operational effectiveness and appropriateness.

The power of execution for mid- to long-term investment plans in the relevant areas and sectors needs to be strengthened by including major stakeholders in the strategic analysis process. Currently, as social and political disputes regarding resource allocation intensify, preliminary communication through the strategic analysis process will be able to reinforce the power of execution in the actual resource allocation process.

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