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Foreword

The OECD Journal on Budgeting is a unique resource for policy makers, officials and researchers in public sector budgeting. Drawing on the best of the recent work of the OECD Working Party of Senior Budget Officials (SBO), as well as special contributions from finance ministries of member countries and from other practitioners, the Journal provides insights on leading-edge institutional arrangements, systems and instruments for the effective and efficient allocation and management of resources in the public sector.

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A study on compilation and improvement of indices for legislative budgetary institutions – With focus on comparative analysis of current institutions in 60 countries

by
Chunsoon Kim*

Legislative budget institutions are established and operated in different forms according to the various political and social experiences and financial circumstances of each country. Note, however, that research studies on the causes thereof are not only few in number but also focus mostly on the fact that legislative budget institutions are determined according to the “form of government”. In this light, this study establishes the comparison and analysis of the legislative budget institution of each country.

The implication of this study is as follows. Firstly, this study approaches the Legislature’s capacity from a comprehensive and three-dimensional point of view in order to compile sub-indices of each legislative budgetary institution index. In other words, this study is to approach the financial authority vested to the Legislature and the Legislature’s capacity to exercise such authority from a comprehensive point of view in measuring such indices.

Secondly, the accuracy of indices in this study has been improved by deriving relative weighting for sub-indices of each legislative budgetary institution index through AHP questionnaire surveys and analyses. In other words, AHP analysis can ensure the practicality and accuracy of measurement of indices and present a scheme to compile more universal and relevant indices.

It is, however, necessary to consider sub-indices such as elements of legal system and related agencies. Also this study has a limitation in that it fails to fully explain the actual conditions of operation of institutions in the unique political, social, and economic settings of each country.

JEL Classification: H11, H50, H83

Keywords: Legislative Budget Institution, Legislative Budget Institution Index, AHP

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1. Introduction

A budgetary system, which can be defined as a “framework for the operation of a budget”, regulates the legislature and the executive, both of which are major participants in the budget process, and the legislature and the executive respectively endeavor to establish a budgetary system more favourable to the interests and positions of each side. Such budgetary system functions as an essential mechanism¹ that not only determines the role of each participant and the timing for participation of each participant but also ultimately defines the nature and substance of a budget (Kim, 2012: 247). Furthermore, a budgetary system is important as a device that helps to maintain transparency, democracy, and financial soundness as well as the efficient and performance-oriented operation of a government budget.

In particular, a legislative budgetary system can be defined as a kind of “institution” or “norm” that specifies the method by which the legislature can exercise its official powers in each budget process to ensure the democratic compilation of a government budget from the view point of fiscal democracy² and the transparent and efficient implementation of a government budget. Each country has a legislative budgetary institution in a different form, which has been established and operated depending upon diverse political and social experiences and financial conditions, and even legislative budgetary institutions in a similar form are not uniform in terms of specific and practical contents and the methods of operation. Such diversity in legislative budgetary institutions result from diversity in the types and nature of problems that each country must solve, diversity in the internal and external environments that exist in each country, and diversity in an environment for institutionalisation, which each country confronts in the course of establishing the institution (Kang, 2007: 1).

If a universal and valid analytical framework that can measure legislative budgetary institutions can be produced by eliciting and constructing common attributes and elements of such diverse legislative budgetary institutions that have been formed and operated in many countries, the framework will enable us to measure legislative budgetary institutions objectively and to represent the results thereof numerically and thus it will have a significance in that the relative level of the legislative budgetary institution in each country can be compared and analysed.

Preceding studies for measuring legislative budgetary institutions (Von Hagen, 1992; Alesina et al., 1999; Gleich, 2003, Wehner, 2006), however, had limits in that the indices of legislative budgetary institutions could not reflect the legislature’s attributes in the budget process adequately since they were focussed on a specific region or greater weight was placed on the structural aspect of the budget process. Hence, it is necessary to compile the representative indices of legislative budgetary institutions, taking into account the Legislature’s powers, capacity, etc. not only in the structural aspect of the legislature, but also in the budget process.

This study has the following objectives, as discussed above: Firstly, it aims at compiling indices for legislative budgetary institutions by presenting and measuring new elements

with which legislative budgetary institutions can be measured. In other words, the intention is to subdivide the scale of sub-indices and supplement the meaning of each index in order to present standards as a tool with which the legislative institution/institutions of respective countries can be compared and analysed; secondly, it aims at presenting the differences and implications of indices for legislative budgetary institutions before and after allocating weight to each index for different legislative budgetary institutions. In other words, the intention is to present a scheme for improving indices for legislative budgetary institutions by eliciting and reflecting the relative importance between sub-indices of each index by reflecting the difference in weight, because the weight of elements of a Legislative Budget Institution might differ from one another.

2. Literature review

The key functions of the legislature are mainly classified into representation, lawmaking, and oversight of the government (Stapenhurst, 2008: 1-2). Such functions may also be applicable to a government budget as they are, because the legislature reflects citizens' opinions in a budget in the course of scrutiny of a budget bill, enacts and amends relevant legislation, settles accounts, and conducts audits to ensure that the budget has been efficiently implemented. The legislature's functions of representation, lawmaking, and oversight in connection with budgeting are manifested and performed in the budget process in four stages, that is, the compilation, scrutinisation, implementation, and settlement and audit of a budget bill, generally, although there are implicit differences in such functions in each country. From this point of view, a legislative budgetary institution can be understood and conceptualised as a budget circulation process. In other words, various legislative budgetary institutions in which political, economic, social, and cultural characteristics of each country are combined, have been formed through the circulation process of budgets in stages as the governance system of each country, which is derived from the mutually dynamic relationship between the executive and the legislature and between civil society and public officials.

Studies on the compilation and measurement of indices for legislative budgetary institutions like this study are analytic tools for determining the relationship between a budget institution and budget performance and are classified into studies on the measurement of legal budget institutions (Von Hagen, 1992; Alesina et al., 1999; Gleich, 2003) and studies focussed on the compilation and measurement of indices for legislative budgetary institutions and comparisons of legal budget institutions in respective countries under the relationship between the legislature and the executive (Wehner, 2006; Kim and Mun, 2012).³

First of all, Von Hagen (1992) intended to look into the impact that a legal budget institution had on budget performance through a study that fell under the first category, being the first study concerning the measurement and compilation of legal budgetary institutions. For this purpose, Von Hagen divided the budget process into the stages of compilation, scrutinisation, approval, and implementation of a budget bill and compiled indices for legislative budgetary institutions by measuring institutional elements at each stage and classifying indices for legislative budgetary institutions into "Structural Indices" and "Medium-term Fiscal Constraint Indices". In a similar context, Alesina et al. (1999) divided into a budget institution the stages of compilation, approval, and implementation of a budget in order to look into the impact that a budget institution had on the performance of a budget and compiled indices by presenting ten subordinate elements⁴ for

the type of a budget institution. Gleich (2003) also compiled indices in order to measure institutional characteristics necessary for strengthening co-ordination and co-operation in the budget process. For this purpose, Gleich measured Budget Institution Indices with sub-indices in each stage by dividing the budget process into three stages, namely compilation, approval, and implementation.

Subsequently, Wehner (2006) pointed out in a study that fell under the second category that it was hard to test the effects of each sub-index since the Index of the Legislature's Budgetary Authority by Lienert (2005)⁵ aggregated sub-indices and converted them into a single index and thus compiled the Index of Legislative Budget Institutions by dividing the indices constituting the Index of Legislative Budget Institutions into Financial Authority and Organisational Capacity and by subdividing and combining respective indices. In a similar context, Kim and Mun (2012) measured the index by applying the method presented by Wehner (2006) for the compilation of indices for legislative budgetary institutions, but expanding the scope of analysis in order to compensate for the limits of Wehner's study (2006) that failed to secure sufficient cases of countries under a presidential system. Kim and Mun conducted a comparative analysis of financial authority and organisational capacity in each country as an effort to further develop Wehner's study (2006) and confirmed as a result of the analysis that legislative budgetary institutions did not represent any statistically meaningful difference depending upon the government form but a meaningful outcome appeared depending upon the form of Government when financial authority and organisational capacity became subject to control in an OECD member country. The preceding studies discussed so far can be summarised as follows in Table 1.

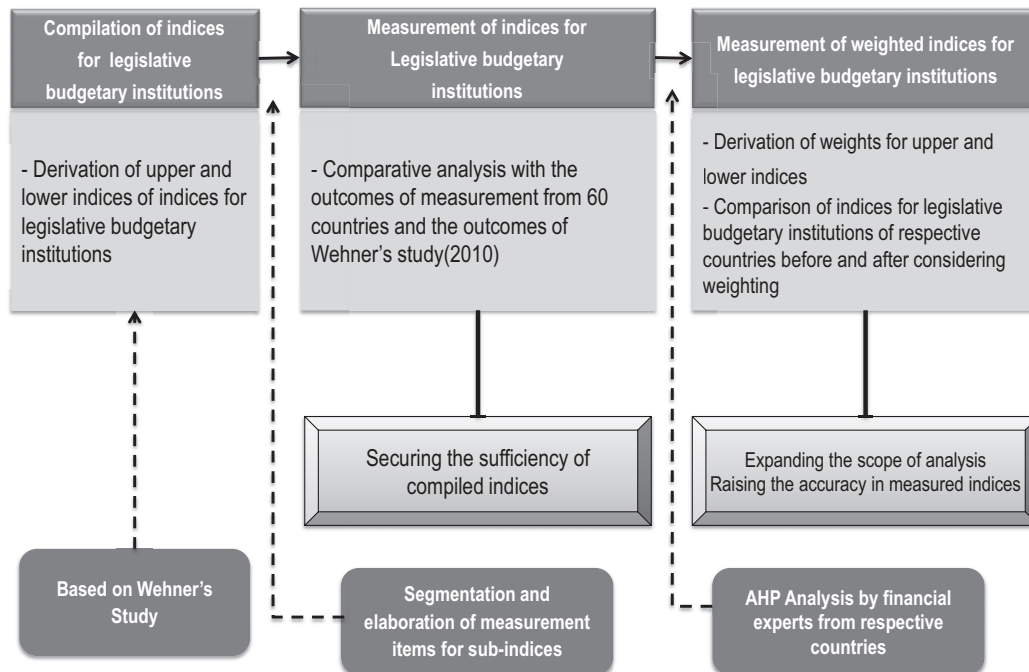
Table 1. Studies on compilation of indices for legislative budget institutions

Type of study	Study	Scope of measurement	Method for compilation and measurement of indices
Studies with focus on determining the relationship between budgetary institution and budget performance	Von Hagen (1992)	13 EU countries	Indices at each budgeting stage were classified into SIs and OCs for measurement.
	Alesina et al. (1999)	20 Latin American and Caribbean countries	Measurement was made based on ten subordinate elements forming an index.
	Gleich (2003)	12 member countries of the Economic Commission for Europe	The mechanism of vertical and horizontal decision-making in forming an institution at three budgetary stages was converted into indices.
Studies with focus on compilation and measurement of indices for legislative budgetary institutions	Wehner (2006)	36 countries	Indices were divided into the categories of financial authority and organisational capacity, and each category consisted of three elements. the methods introduced by Von Hagen (1999) and Alesina et al. (1996) were applied to aggregation of indices.
	Chunsoon Kim and Jieun Mun (2012)	48 countries	Wehner (2006) and the methodology for compilation of indices were utilised, but each subordinate element was further segmented and the method for the compilation and measurement of indices were improved.

Source: Author.

3. Study design

This study has been conducted in three phases (see Figure 1). The first phase intends to secure the fidelity of indices by deriving elements constituting an index, based on Wehner' study (2006), in order to compile indices for legislative budgetary institutions and

Figure 1. **Flow of study**

Source: Author.

by subsequently modifying and supplementing measurement items of sub-indices to make a comprehensive judgment on the attributes, structures, and functions of legislative institutions. At the next phase, indices for legislative budgetary institutions in 60 countries were measured, increasing the number of countries to be analysed and the scope of analysis in order to overcome the limits of preceding studies, in which the number of countries measured was extremely small or in which the scope of analysis was limited to countries in a specific region, and then implications were drawn by comparing the outcomes thereof with the outcomes of Wehner's study (2010). Finally, the weight for each sub-index was calculated by applying the Analytic Hierarchy Process (AHP), and indices before and after being weighted the process were compared and analysed. Preceding studies adopted a simple method for the aggregation of sub-indices, but the intention of this study to raise the accuracy in the measurement of indices and secure the validity of indices by deriving the weight for each index based on opinions sought from financial experts in many countries.

3.1. **Methods for compilation and measurement of indices for legislative budgetary institutions**

The compilation of indices for legislative budgetary institutions is a kind of criteria and the most important analytic tool for the comparison and evaluation of legislative budgetary institutions in respective countries. In this study, indices are divided mainly into financial authority and organisational capacity without compiling indices for each budget process, as in Wehner's model (2006), and then three representative sub-indices are allocated to each category to measure indices. Among the countries so measured, 60 representative countries are selected for analysis from all regions (Europe, Asia, America, and Africa) and with diverse forms of government, as well as OECD member and non-member countries.

Questionnaire surveys conducted by the OECD and the World Bank on budget institutions in 97 countries in 2007 and 2008 in order to measure compiled indices of legislative budgetary institutions were utilised for this study, but eight questions used in the study and analysis on 90 countries subject to the questionnaire surveys on legislative budgetary institutions were segmented, modified, and supplemented to measure indices of legislative budgetary institutions. While Wehner's study (2010) was based on the surveys conducted by the OECD in 2003 and 2007 on budget institutions and the outcomes of online surveys, the first measurement in this study was made based on the outcomes of the surveys conducted by the OECD in 2007 and 2008 on budget institutions. Furthermore, an attempt was made to supplement the inadequate part through questionnaire surveys and in-depth interviews with public officials in charge of finance in the countries that gave inappropriate answers by utilising identical questions, and another attempt was made to secure the validity and up-to-datedness of indices for legislative budgetary institutions by collecting expert opinions by e-mail and surveys conducted by the embassies in such countries to conduct the second measurement. Respective sub-indices so measured are presented as complex indices,⁶ and the form of a complex index can be expressed by the following formula (Choi and Mun, 2006: 28-29).

$$CI = \sum_{i=1}^n w_i X_i$$

CI here refers to a complex index; X_i a regularized sub-index

3.2. Determining weighting for indices for legislative budget institutions

The Analytic Hierarchy Process (AHP) is one of the methods for determining the relative importance of alternatives and was designed by Saaty (1990) in 1970s. AHP is a methodology for determining the order of priority of alternatives or giving weight to alternatives through pair-wise comparison and has been utilised as a means for decision-making for various purposes, from making a simple personal decision to making a more complicated decision in banking, finance, economics, politics, sports, etc. (Stein and Ahmad, 2008:395; Saaty and Vargas, 1991). AHP is a method for determining weight for an evaluated element by organising, structuring, and systemising a decision-maker's judgments and experiences, especially when deciding on an issue to which it is hard to approach quantitatively, and can be defined as a technique for making a decision, designed to fit mathematical models at the decision-making stage.

The AHP technique to be applied in this study for determining the weighing for indices for legislative budgetary institutions undergoes the process of establishing a hierarchy related to decision-making, conducting a pair-wise comparison⁷ of elements at different levels, estimating weighting (relative importance) of elements compared pair-wise, and deriving composite weight by aggregating weighting for evaluated elements at each level.⁸ The data necessary for the AHP analysis in this study has been collected through online surveys (questionnaire surveys via web-sites and by e-mail) due to the nature of samples, which are overseas experts, and the data about experts in some countries has been collected directly by the author.

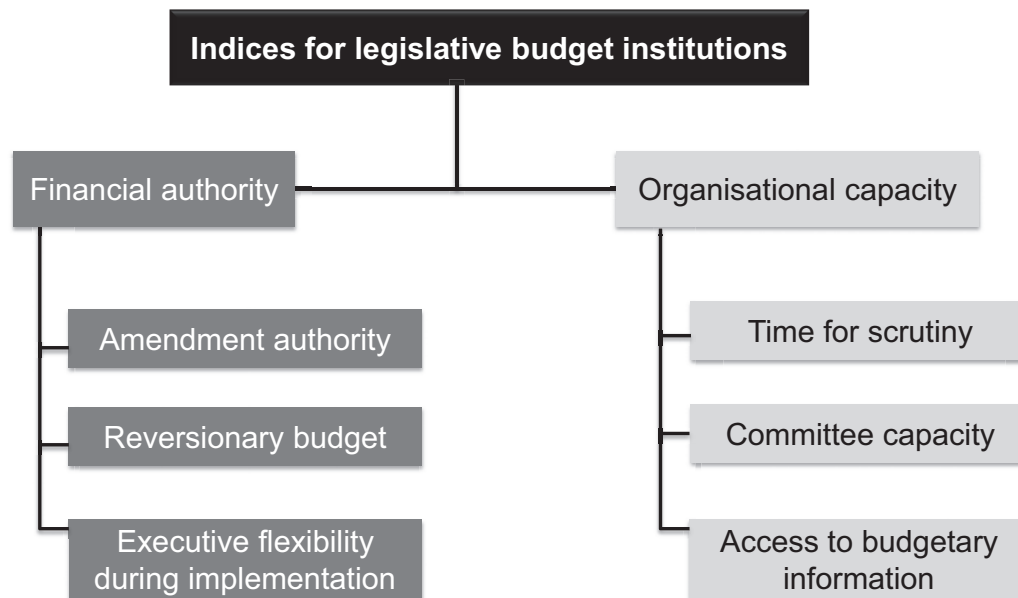
4. Outcomes of analysis

4.1. Outcomes of compilation of indices for legislative budget institutions

The compilation of indices for legislative budgetary institutions in this study is based on the same methodology used by Wehner (2006) to compile indices. Hence,

the indices for legislative budgetary institutions in this study are comprised of two upper indices for financial authority and organisational capacity and six sub-indices for each upper index (see Figure 2).

Figure 2. **Elements of indices for legislative budget institutions**



Source: Author.

In order to secure a template with which indices for legislative budgetary institutions can derive a framework to enable the comparison of legislative budgetary institutions between respective countries or the meaning as aggregate indices, the scale of sub-indices is further subdivided, modified, and supplemented. The details of sub-indices at each upper level and the methods for measurement⁹ are presented in Table 2.

4.2. Outcomes of measurement of indices for legislative budget institutions

4.2.1. Analysis of respondents

This study utilised the questionnaire surveys conducted by the OECD and the World Bank in 2007 and 2008 on 97 countries in order to compile indices for legislative budgetary institutions. Sixty countries in whose case the reliability of responses, mainly to eight questions used for study and analysis were included in the scope of study, out of the 97 countries on which the questionnaire surveys were conducted. These 60 countries include 33 OECD member countries and 27 non-member countries as well as countries from each Continent (see Table 3).

4.2.2. Measurement of indices for legislative budgetary institutions and comparison with Wehner's study (2010)

The outcomes from the measurement of indices for legislative budgetary institutions for 60 countries are presented in the values before the weighting in Table 4 are applied (a, v, f, t, c, r, BI). As described above, the indices for legislative budgetary institutions in this study are classified into upper categories, financial authority and organisational capacity,

Table 2. **Composition of indices for legislative budget institutions and methods for measurement**

Upper level	Lower level (Sub-indices)	Concept	Questions in the surveys by OECD on budget institutions	Questions and distribution of points
Financial authority	Amendment authority	The degree of the Legislature's authority to amend a budget bill presented by the Executive.	40	If possible only to approve or reject a budget bill as a whole = 0 ¹ If possible to make a meaningful reduction or modification to an existing budget = 2.5 If possible to increase the amount on condition of securing revenue = 5 If possible to make an adjustment of projects without changing the scale of total expenditure = 7.5 If the Legislature may revise a budget bill freely = 10
	Reversionary budget	Whether, and to what extent the Executive may compile and implement a temporary budget, if the Legislature decline a budget bill.	43	If the government's budget bill takes effect = 0 If the government's budget bill takes effect during a certain period = 2.5 If the budget for the preceding year takes effect during a certain period = 5 If the Legislature shall determine a certain period by voting = 7.5 If impossible to make disbursements = 10
	Executive flexibility during implementation ²	Whether, and to what extent the Executive can have flexibility ³ during the period of implementation after the Legislature approves a budget.	53, 54, 61	If possible for the government to reallocate/vire a budget in its discretion without the Legislature's approval = 0 ⁴ /If impossible = 3.3 If a budget has reserve funds for emergencies = 0/If impossible = 3.3 If possible to refuse to implement a budget = 0/If impossible = 3.3
Organisational capacity	Time for Scrutiny ⁵	How properly the Legislature can partially control its agenda.	39	Submitted after a budget is approved = 0 ⁶ Submitted two months earlier = 2 Submitted four months earlier = 4 Submitted six months earlier = 6 Submitted eight months earlier = 8 More months earlier = 10
	Committee capacity	Whether the organisation of the committee can assist the Legislature in effectively influence the process of determining a policy or to what extent the structure of the committee can intervene in the budget process.	33	The Legislature has a single budget committee for budgeting, in addition to a standing committee, and the standing committee jointly intervenes in budgeting = 10 A standing committee participates in the budget committee = 7.5 The budget committee along handles budgets = 5 A standing committee determines a budget without a budget committee = 2.5 Other cases = 0 ⁷
	Access to budgetary information ⁸	To what extent the Legislature can access to budgetary information in order to exercise its power to oversee the budget.	34	[Number of personnel Whether affiliated] ⁹ <Number of personnel> No specialized organisation = 0 20 people or less = 2.5 21 to 40 people = 5 41 to 60 people = 7.5 61 people or more = 10 <Whether affiliated> If affiliated to the Legislature = 100% ¹⁰ If not affiliated to the Legislature = 50%

Table 2. **Composition of indices for legislative budget institutions and methods for measurement (cont.)**

Notes:

1. Zero (0) points are awarded where the institution is the most disadvantageous to the Legislature, while ten points is the highest. Where a survey on budget institutions shows no answer or an inadequate answer with regard to sub-indices consisting of an index for legislative budgetary institutions, web-sites of the Legislature of each country and literature regarding budget institutions (treatises and reports) as well as points in Wehner (2006; 2010) have been also consulted.
2. Wehner (2010) measured whether a government may reallocate/vire a budget in its discretion without the Legislature's consent, whether a budget includes reserve funds for emergencies, whether a government may refuse to implement a budget, etc. It differs from this study in that it included and aggregated the item of refusal to implement a budget, rather than carry-over of the budget.
3. The flexibility during implementation is related to carry-over or reallocation/virement of a budget or reserve funds and means the extent of the discretionary power in implementation, such as the Executive's transfer of budget funds between budgetary items during a period of implementation. The Executive in some countries used to introduce even new expenditure items without the Legislature's approval (Carey & Shugart, 1998; Wehner, 2006).
4. In this study, three variables are put together, and full points for the Executive's control over implementation are ten points. However, the surveys on budget institutions (2007; 2008), contrary to the survey in 2003, subdivided the item of carry-over into operation budget, investment budget, and transfers and measures the average values of the answers for the three sub-items.
5. The reason the time for scrutiny is included in organisational capacity is that this study follows the resource dependency theory. In other words, it is deemed that the control of key resources due to scarcity of resources is directly related to an organisation's power as well. For it can be said that how quickly the Legislature can obtain a budget bill from the Executive and secure the resource 'time' enough for thorough scrutiny is the key resource for enhancing the Legislature's organisational capacity.
6. In Wehner (2006) and Chunsoon Kim & Jieun Mun (2012), zero (0) points were awarded up to two months, 3.3 points to up to four months, 6.7 points to six months, and 10 points to six months or more, but the method for measurement in such preceding studies is adjusted in this study as it is deemed reasonable to divide the time for scrutiny into more time-frames because in some countries a budget bill was presented even after a budget had been passed.
7. Wehner (2010) awards the highest ten points for committee capacity if the Legislature has all three committees; budget committee, standing committee, and audit committee.
8. The Executive's autocracy of budgetary information is the conventional limit that the Legislature faces (Wildavsky and Caiden, 2001: 78), but members of the Legislature can access to a budget more easily and can simplify a complicated budget bill for analysis, if they have an independent supportive organisation for budgeting. Moreover, they can oversee the Executive's budgetary information effectively, raise the sense of responsibility, and enhance transparency (Wehner, 2010: 50; Anderson, 2008).
9. Wehner (2010: 50) focussed on the Legislature's capacity for independent analysis because the survey in 2003 on budget institutions could not provide information about the quality of budgetary information provided by the Executive. It was not easy even for this study to obtain data of each country regarding measurement of the level of disclosure of budgetary information of 60 countries, and so an independent fiscal institution was chosen as a proxy variable as Wehner (2006) did, but not only whether the Legislature had an independent fiscal institution was merely measured but also the role, functions, and personnel of each independent fiscal institution were quantified to improve the method for measurement.
10. For example, 5 points 50% = 2.5 points are awarded to Belgium since 26 people works in an independent institution not affiliated to the Legislature.

Source: Author's calculations.

Table 3. **Countries subject to Analysis**

Region	OECD countries (33)	Non-OECD countries (27)
Europe (31)	Greece, Netherlands, Norway, Denmark, Germany, Luxemburg, Belgium, Sweden, Switzerland, Spain, Slovakia, U.K., Slovenia, Iceland, Ireland, Austria, Israel, Czech Republic, Turkey, France, Italy, Portugal, Poland, Finland, Hungary (25)	Latvia, Russia, Romania, Bulgaria, Serbia, Albania (6)
North America (2)	United States, Canada (2)	
Asia (9)	Japan, Republic of Korea (2)	Indonesia, Tajikistan, Cambodia, Taiwan, Thailand, Philippines, Hong Kong (7)
Oceania (3)	New Zealand, Australia (2)	Fiji (1)
Latin America (8)	Mexico, Chile (2)	Venezuela, Brazil, Argentina, Uruguay, Panama, Peru (6)
Africa (7)		Ghana, South Africa, Malawi, Morocco, Swaziland, Uganda, Kenya (7)

Source: Author.

and are measured with three sub-indices in each category.¹⁰ The greater the values of measured indices for legislative budgetary institutions, the greater the legislature's power over the executive, whereas the smaller such values, the lesser the Legislature's power.

Differences between this study and Wehner's study (2010) in the methods for gathering data and measuring indices are as set forth in Table 4. Table 4 demonstrates differences in the measurement of four sub-indices, such as the executive's flexibility during implementation, the time for scrutiny, committee capacity, and the access to budgetary information, in connection with the measurement of indices.

Table 4. **Comparison of methods for measurement with Wehner's Study (2010)**

Category	Wehner (2010)	This study
Collection of data	Collected from the OECD surveys conducted in 2003 and 2007 on budget institutions and prepared by the author's search of web-sites.	Collected from the OECD surveys in conducted 2007 and 2008 on budget institutions and preceding studies on legislative budgetary institutions of respective countries and measured data collected directly through interviews with public officials in charge of finance in respective countries, direct surveys by e-mail, and via embassies in many countries.
Measurement	Executive's flexibility during implement-tation	- The item of refusal to implement a budget was included and aggregated in the OECD survey conducted in 2003 on budget institutions, rather than carry-over of the budget. - Indices are measured separately for carry-over of a budget, reallocation/virement of the budget, and reserve funds and then aggregated. - In cases of indices for carry-over of a budget, the indices were measured separately for operating expenses, investment budget, and transfers.
	Time for scrutiny	- Separate measures for four time-frames - Separate measures for five time-frames
	Committee capacity	- The highest points were awarded where the legislature had all three committees; budget committee, standing committee, and audit committee, by conducting an additional survey through the legislature's web-sites. - Subdivided the level of the committee's intervention in the budget process into further subcategories and converted them into variables.
	Access to budgetary information	- Points were awarded only to a fiscal institution affiliated to the legislature. - Certain points were also awarded to independent fiscal institutions not affiliated to the legislature, taking into consideration the fact that they somewhat assisted the legislature in its fiscal activities.

Source: Author.

The comparison between the values of indices for legislative budgetary institutions measured and finally compiled in this study and the values measured in Wehner (2010) are as set forth in Table 5. Above all, the countries in which the indices have decreased and the Legislature's power appear to have been relatively reduced in Japan and Hungary. The budget institution indices for Japan and Hungary were reduced to a level lower than half of the outcomes of the measurement in Wehner (2010).

Table 5. Outcomes of measurement of indices for legislative budget institutions: Comparison with Wehner's model (2010)

Name of Country	Financial authority						Organisational Capacity						Legislative Budget Institution (BI) (Rank)	
	Amendment authority		Reversion		Flexibility		Time for scrutiny		Committee capacity		Access to information			
	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim
Japan	2.5	2.5	10.0	2.5	6.7	5.5	3.3	2.0	6.7	5.0	5.0	0.0	56.9(7)	29.2(25)
Hungary	10.0	7.5	10.0	2.5	6.7	1.1	3.3	4.0	10.0	10.0	0.0	0.0	66.7(2)	41.8(18)
Canada	2.5	2.5	3.3	2.5	0.0	3.3	0.0	2.0	6.7	10.0	2.5	2.5	25.0(25)	38.0(20)
Greece	0.0	7.5	6.7	5.0	0.0	3.3	0.0	2.0	5.0	5.0	0.0	0.0	19.4(28)	38.0(20)
Iceland	10.0	10.0	0.0	5.0	6.7	6.7	3.3	4.0	3.3	5.0	0.0	0.0	38.9(16)	51.2(11)
Ireland	0.0	0.0	0.0	5.0	3.3	6.7	0.0	2.0	6.7	2.5	0.0	0.0	16.7(30)	27.0(26)
Italia	10.0	10.0	0.0	5.0	3.3	2.2	3.3	4.0	3.3	5.0	0.0	0.0	33.3(22)	43.7(16)
Korea	2.5	2.5	6.7	5.0	3.3	0.0	3.3	4.0	3.3	10.0	7.5	10.0	44.4(14)	52.5(9)

Source: Author.

In the case of Japan, Wehner (2010) deemed that a fiscal institution affiliated to the Legislature existed, but it was hard, in this study, to recognise the existence of a fiscal institution affiliated to the legislature. The existence of a fiscal institution affiliated to the legislature was recognised for the purpose of this study only when an organisation exclusively dedicated to assistance to the legislature in scrutiny of budgets existed. In Japan, however, a unit in the Research and Legislative Reference Bureau of the National Diet Library merely provided budget-related information as part of its various services, and thus, it was hard to recognise it as an independent fiscal institution. Therefore, Japan's indices as a whole appeared to fall. Moreover, Wehner (2010) concluded that it was impossible to make expenditure without the legislature's approval and awarded ten points for the reversionary budget, but 2.5 points are awarded for Japan's reversionary budget institution in this study because the government's budget bill is effective for a certain period under Japan's reversionary budget institution, according to the outcomes of the OECD survey conducted in 2008 on budget institutions and this study. In the case of Hungary, the points for amendment authority are reduced because it is possible to amend a bill without altering the total amount of the budget. Moreover, Wehner (2010) awarded ten points for reversionary budget, but only 2.5 points are awarded for reversionary budget in this study, because it is found that the government's reversionary budget bill in Hungary is effective only for a limited period, according to the outcomes of the OECD survey conducted in 2008 on budget institutions and this study.

On the contrary, such indices have increased in Greece, Iceland, Ireland, Canada, and Italy, and the legislature's power in these countries appear to have risen. The points for amendment authority in Greece are raised from zero (0) to 7.5 points. In the past, the legislature had no authority to amend a bill, unless it rejected a bill as a whole by accept-or-reject vote on the budget bill. The legislature was granted the authority to amend a

budget bill by the amendment to the Constitution in 2008. Consequently, the legislature's budgeting power is strengthened and may present an amendment bill to amend any content of a budget bill, as long as such amendment bill does not alter the total amount of the budget bill that has been compiled and presented by the government on revenue and expenditure. Therefore, the legislature in Greece is presumed to have greater authority to amend a budget bill within the extent of the budget bill presented by the government. Although there is no big difference among Iceland, Ireland, and Italy in other elements, five points are awarded for reversionary budget in aforesaid countries, as confirmed by the outcomes of the surveys conducted for this study and the outcomes of the OECD surveys, whereas Wehner (2010) awarded zero (0) points for reversionary budget. In the case of Korea, the points allocated to the executive's flexibility during implementation, committee capacity, and independent fiscal institutions shows a slight increase.

4.3. Outcomes of measurement of indices for legislative budget institution with weighting

4.3.1. Analysis of respondents

In order to inquire about the relative importance of the elements forming a legislative budgetary institution, an AHP questionnaire survey was conducted targeting experts specialising in legislative budgetary institutions in each country.¹¹ In a survey conducted for experts in the relevant area, the success or failure of the study¹² may depend upon the selection of questions (Kang and Lee 2000). Therefore, the National Assembly Budget Office's pool of overseas financial experts¹³ was utilised as a population, and 44 experts were selected from among them, taking into account their nationalities and the institutions to which they belong. As a result of the selection, it was found that 26 people, from among 44 experts, belong to the legislature and make up 59.1% of the entire group, forming a group greater than the non-legislature group (40.9%).¹⁴

The period of the questionnaire survey was five months (February through June 2012), and 22 questionnaires were collected from 18 countries. The rate of collection from respondents who belonged to the legislature was 53.8%, greater by 7.6 percentage points than the rate of collection of respondents who belonged to the executive (46.2%).

Table 6. AHP distribution and collection of questionnaires

Group	Number of questionnaires distributed (rate)	Number of questionnaires collected (rate)
Legislature	26 (59.1%)	14 (53.8%)
Non-Legislature*	18 (40.9%)	8 (46.2%)
Total	44	22

* Non-Legislature includes the Executive, international organisations, professors, etc.

Source: Author.

Out of 22 respondents, legislature respondents were 14 people (63.6%), forming the greatest group, while 8 respondents did not belong to the legislature, 4 people out of whom were public officials of the executive, in charge of finance, 2 professors and another 2 people belonged to an international organisation, respectively.

As described above, the reason more people from the legislature responded to the questionnaire survey was that approximately 60% of the survey population was comprised of personnel of the legislature. Looking into respondents' work experience, it was found that 9 people, 40.9% of the entire group, had worked for at least 11 years in the same agency

or organisation, respondents who had worked for at least 6 years were 15 people, 68.2% of the entire group, but no respondent had worked for less than one year to ensure sufficient expertise to answer the AHP questionnaire.

In the meantime, a consistency analysis with consistency indices (CI)¹⁵ was conducted prior to the AHP analysis in order to verify whether there was a difference in recognition between legislative respondents and those from the executive, because the legislative respondents were more than those from the executive, among 22 respondents, and questions with a consistency index (CI) of 0.1 or less at each level were selected for the analysis. Questions with a consistency index of higher than 0.1, even at one level were excluded from the final analysis in order to raise the accuracy of questionnaires (Park, Ji Hee et al., 2009). The number of samples used to analyse each level and each sub-index was varied because it was necessary to maintain consistency at each level.

The number of samples at each level actually used in the AHP analysis are as follows:

Table 7. Number of Samples at each Level for AHP Analysis

Questionnaires		CR < 0.1		
Distributed	Collected	Level 1	Level 2-1	Level 2-2
44	22	21	8	11

Note: Level 1 was questions about indices of financial authority and organisational capacity, Level 2-1 was questions about sub-indices of financial authority, and Level 2-2 was questions about indices of organisational capacity.

Source: Author.

Furthermore, the one-way analysis of variance was carried out to ascertain whether there was a difference in the recognition of importance of elements of an index depending upon which organisation an evaluator belonged (to the Legislative or to a non-Legislative agency).¹⁶ As a result of the analysis, no difference was found in the weighting to answers to the priority of indices depending upon the difference in the organisation to which a respondent belonged.

4.3.2. Determination of Weighting for Indices for Legislative Budget Institutions

As a result of the determination of weights for the upper level, the weighting for financial authority (0.565) was higher than that for organisational capacity (0.435), which indicates that overseas experts attached more importance to financial authority. Such result was confirmed by the outcomes of the measurement of indices for legislative budgetary institutions, and differences increased after weighting was applied. Before weighting, the average index of financial authority (FA) was 23.3 points, while the average index of organisational capacity (OC) was merely 17.6 points. After weighting, however, the average index of financial authority (FA) was 27.2 points, greater by 12.4 points than 14.8 points, which was the average index of organisational capacity (OCw). With such outcomes, we can infer that the Legislature in each country pay relatively more attention to, and actually make more efforts for, the increase of financial authority, rather than organisational capacity.

As regards to items at the lower level, the indices were in the order of index for the authority to amend a bill (0.258), among indices for financial authority; the index for access to information (0.200), among indices for organisational capacity; and the index for committee capacity (0.172), which shows that the priority was given to the authority to amend a budget in raising the level of financial authority. And then, the relative priority was given to the executive's flexibility during implementation of a budget and reversionary

budget respectively in the listed order, and the deviations among there sub-indices were great, which confirms that the level of the authority to amend a bill is strongly preferred. Among items for organisational capacity, the index for access to information was the highest (0.460), which can be interpreted as that the legislature recognises that the existence of a fiscal institution that is able to conduct analyses and provide information with expertise has a great impact on the compilation of a legislative budgetary institution. Whereas the index for the authority to amend a bill, among those for financial authority, was twice greater than other sub-indices, the difference between the weighting for access to information (0.460), which took the first place in organisational capacity, and the weighting for committee capacity (0.395), which took the second place, was insignificant. Instead, the weighting for the time for budget scrutiny was 0.146, showing a significantly smaller value than the two greater elements. Particularly noteworthy is that financial experts' recognition that the access to information among the items of organisational capacity was the most important element differed from the outcomes of the construction of indices for legislative budgetary institutions. In other words, on the contrary to the financial experts' recognition that the existence of a fiscal institution is an important element that determines the legislature's organisational capacity, the analysis shows that the Legislative in most countries has not made much effort to improve the access to information. Only 13 had an independent fiscal institution in their legislature, out of 60 countries subject to measurement of indices for legislative budgetary institutions, and the index of access to information in the remaining 47 countries was zero (0). As a result, the analysis shows that the index for committee capacity, which was allocated the second highest weighting after access to information, among the items of the legislative's organisational capacity, has the greatest impact, among the sub-indices for the items of organisational capacity, in the outcomes of the compilation of indices for legislative budgetary institutions. Nevertheless, it is noteworthy that it is undesirable to conclude that financial experts' recognition that access to information is the most important index, among the items of organisational capacity, when taking into consideration the fact that the legislature in many countries, except the United States, began only recently to pay more attention, and endeavor, to independent fiscal institutions.

As regards composite weighting, the highest weighting was allocated to authority to amend a bill, and access to information, committee capacity, and the executive's flexibility during implementation were allocated higher weighting, respectively in the listed order. The weighting for time for budget scrutiny was the lowest, among those for six elements.

4.4. Outcomes of compilation and measurement of indices for legislative budgetary institutions with weighting

When the weighting derived through the AHP analytical process are applied to the indices for legislative budgetary institutions compiled in this study, a formula for indices for legislative budgetary institutions as adjusted below¹⁷ can be computed:

$$a\omega = a \times \omega \times n$$

...

$$r\omega = r \times \omega \times n$$

$$BI_{\omega} = (a\omega + \dots + r\omega) \times 10 \times 1/n$$

ω : Weighting derived from the outcomes of AHP analysis

n : Number of indices

Table 8. **Outcomes of determination of weighting for sub-indices of legislative budget institutions**

Step 1			Step 2				Composite Weighting	
Upper level	Weighting	Priority	Lower level	Weighting	Priority	CR	Weighting	Priority
AIJ	Financial authority	1	Amendment authority	0.457	1	0.02	0.258	1
			Reversion	0.243	3		0.137	5
			Executive's flexibility during implementation	0.301	2		0.170	4
	Organisational capacity	2	Time for scrutiny	0.146	3	0.01	0.063	6
			Committee capacity	0.395	2		0.172	3
			Access to information	0.460	1		0.200	2
Upper level	Weighting	Priority	Lower level	Weighting	Priority	CR	Weighting	Priority
AIP	Financial authority	1	Amendment authority	0.463	1	0.088	0.256	1
			Reversion	0.238	3		0.131	5
			Executive's flexibility during implementation	0.300	2		0.166	4
	Organisational capacity	2	Time for scrutiny	0.157	3	0.058	0.070	6
			Committee capacity	0.399	2		0.178	3
			Access to information	0.444	1		0.199	2

Note: CR for AIP model is the arithmetic mean of the consistency indices of individual questions of AIP model.

Source: Author's calculations.

Major characteristics of indices for legislative budgetary institutions with weighting allocation are analysed as follows: Among the average points for each sub-index of indices for legislative budgetary institutions, the highest point, 9.0 points, were for amendment authority, and the second highest point, 6.5 points, were for committee capacity. 4.1 points were allocated to reversionary budget, while 3.3 points were allocated to the executive's flexibility during implementation. The lowest point was the average 1.1 points allocated to the index of access to information. The reason the lowest points were allocated to access to information is that the number of the countries in which the legislature had an independent fiscal institution was only 13.0, and so the rest of the countries could not be allocated points to it. The mean of the index of financial authority (FA) and of the index of organisational capacity (OCw) was 27.2 points and 14.8 points, respectively, and the gap between two indices exceeded the points allocated before weighting allocation,¹⁸ while the average points for indices for legislative budgetary institutions (Blw) were 42.1 points, 1.2 points higher than 40.9 points (BI) before weighting.

Among the countries surveyed, the country whose legislative budgetary institution index was the highest was the United States of America, followed by Sweden, Denmark, Norway, Belgium, and the Netherlands respectively, and eight countries, except Bulgaria (8th place) and Brazil (10th place), among the top ten countries, were OECD countries.¹⁹ From this result, it is possible to infer that the legislature in OECD countries has more authority over budgeting. In fact, the outcomes of the comparison of indices for legislative budgetary institutions of all 60 countries support the inference since the average legislative budgetary institution index (45.7 points) of 33 OECD countries was greater than the average legislative budgetary institution index (37.7 points) of 27 non-OECD countries. Such outcomes are consistent with the results of the compilation of indices for legislative budgetary institutions, which demonstrates the fact that the difference in amendment authority depending upon the form of government is greater than the difference depending upon the OECD membership.

The characteristics of the change in indices of each country before and after weighting allocation are described below.

Firstly, the country whose legislative budgetary institution index was the highest was still the United States of America (92.8 points before weighting; 94.8 points after weighting). On the contrary, Chile has the lowest legislative budgetary institution index, in which case points dropped from 19.2 points before weighting to 17.6 points after weighting.

Secondly, the countries whose points changed the greatest amount after weighting were those whose points for amendment authority were high, such as Belgium, Bulgaria, Austria, Philippines, and Fiji. The countries that showed the slightest change in their points after weighting were Japan, Australia, Venezuela, Latvia, and Korea, which had very low points for amendment authority or access to information, where the ratio of weighting was the highest, and thus it could not have favourable effects from the application of weighting.

Thirdly, the six countries ranked at the top 10% of all 60 countries were the United States, Sweden, Denmark, Mexico, Norway, and Brazil before weighting, but the order of the countries ranked at the top 10% after weighting was changed to United States, Sweden, Denmark, Norway, Belgium, and Mexico, with Brazil ranked back to the 10th place, Belgium ranked from the 7th place to the 5th place, and Netherlands rising from the 9th place to the 7th place, respectively. The analysis shows that the reason that the indices of Belgium and Netherlands increased was that both countries obtained greater weighting for the indices of amendment authority and access to information. On the contrary, six countries ranked as the bottom 10% of all 60 countries before weighting were Chile, Australia, New Zealand, United Kingdom, France, and Thailand in the listed order, but the countries ranked at the bottom 10% after weighting were Chile, Thailand, Australia, France, New Zealand, and Malawi. The legislatures of Australia, New Zealand, and Malawi had less influence even among countries under parliamentary cabinet system.

Finally, the analysis shows that the index for financial authority in all five top-ranking countries was higher than the index for organisational capacity. In the case of Mexico ranked in the 6th place, however, the index for organisational capacity was higher than the index for financial authority, and the main reason for such result was the existence of a fiscal institution in the legislature. The countries ranked in the top 25% were 15 countries, including Austria, but only in the case of Korea and Mexico, among them was the index for organisational capacity higher than the index for financial authority. Austria was ranked in the 10th place, but it increased to the 15th place after weighting, because it obtained higher points for the index of amendment authority (10 points), among indices for financial authority. The countries whose legislative budgetary institution index is relatively lower than others before weighting were Chile and the members of the British Commonwealth, such as Australia, New Zealand, and United Kingdom. After weighting, the order was partially changed to Chile, Thailand, Australia, France, and New Zealand. The United Kingdom was raised from the 57th place to the 52nd place, because the United Kingdom established and operates a new fiscal institution, called the Office for Budget Responsibility (OBR), and so weighting was allocated to the index of organisational capacity. In the case of Korea, it was ranked at the 10th place before weighting, but its ranking dropped to the 14th place after weighting. The main reason for the slight downfall of the ranking is that it obtained lower points for the index of amendment authority, although the greatest weighting was to the index. The indices for legislative budgetary institutions finally determined by ranking after applying composite weighting are as listed in Table 9.

Table 9. **Ranking of indices for legislative budget institutions of each country after weighting**

Ranking	Name of Country	Financial Authority						Organisation capacity						Budget Institution Index (BI vs BI _ω) (Rank)	
		Amendment authority		Reversion		Flexibility		Time		Committee		Research			
		a	a _ω	v	v _ω	F	f _ω	t	t _ω	c	c _ω	r	r _ω	BI	BI _ω
1	United States	10.0	15.5	10.0	8.2	7.7	7.9	8.0	3.0	10.0	10.3	10.0	12.0	92.8(1)	94.8(1)
2	Sweden	10.0	15.5	10.0	8.2	6.7	6.8	4.0	1.5	10.0	10.3	1.3	1.6	70.1(2)	73.3(2)
3	Denmark	10.0	15.5	5.0	4.1	10.0	10.2	4.0	1.5	5.0	5.2	3.8	4.6	63.0(3)	68.4(3)
4	Norway	10.0	15.5	10.0	8.2	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	62.2(4)	64.8(4)
5	Belgium	10.0	15.5	5.0	4.1	3.3	3.4	2.0	0.8	10.0	10.3	2.5	3.0	54.7(7)	61.7(5)
6	Mexico	2.5	3.9	10.0	8.2	3.3	3.4	4.0	1.5	10.0	10.3	7.5	9.0	62.2(4)	60.5(6)
7	Netherlands	10.0	15.5	7.5	6.2	3.3	3.4	4.0	1.5	2.5	2.6	5.0	6.0	53.8(8)	58.5(7)
8	Bulgaria	10.0	15.5	5.0	4.1	3.3	3.4	2.0	0.8	10.0	10.3	0.0	0.0	50.5(14)	56.7(8)
9	Switzerland	10.0	15.5	10.0	8.2	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	53.8(8)	56.2(9)
10	Brazil	7.5	11.6	10.0	8.2	3.3	3.4	6.0	2.3	7.5	7.7	0.0	0.0	57.2(6)	55.3(10)
11	Iceland	10.0	15.5	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	51.2(12)	55.2(11)
	Indonesia	10.0	15.5	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	51.2(12)	55.2(12)
13	Luxembourg	10.0	15.5	10.0	8.2	2.2	2.2	4.0	1.5	5.0	5.2	0.0	0.0	52.0(11)	54.4(13)
14	Korea	2.5	3.9	5.0	4.1	0.0	0.0	4.0	1.5	10.0	10.3	10.0	12.0	52.5(10)	53.0(14)
15	Austria	10.0	15.5	5.0	4.1	2.2	2.2	2.0	0.8	7.5	7.7	0.0	0.0	44.5(19)	50.6(15)
16	Venezuela	7.5	11.6	5.0	4.1	6.7	6.8	6.0	2.3	5.0	5.2	0.0	0.0	50.3(15)	50.0(16)
17	Germany	10.0	15.5	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	45.5(17)	49.4(17)
18	Finland	10.0	15.5	2.5	2.1	4.4	4.5	4.0	1.5	5.0	5.2	0.0	0.0	43.2(24)	47.8(18)
19	Uganda	2.5	3.9	2.5	2.1	5.5	5.6	2.0	0.8	10.0	10.3	5.0	6.0	45.8(16)	47.7(19)
20	Cambodia	7.5	11.6	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	43.7(22)	47.5(20)
	Italy	10.0	15.5	5.0	4.1	2.2	2.2	4.0	1.5	5.0	5.2	0.0	0.0	43.7(22)	47.5(20)
22	Czech Republic	7.5	11.6	5.0	4.1	0.0	0.0	4.0	1.5	10.0	10.3	0.0	0.0	44.2(20)	45.9(22)
23	Latvia	5.0	7.7	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	45.5(17)	45.1(23)
24	Turkey	7.5	11.6	7.5	6.2	0.0	0.0	4.0	1.5	7.5	7.7	0.0	0.0	44.2(20)	45.0(24)
25	Hungary	7.5	11.6	2.5	2.1	1.1	1.1	4.0	1.5	10.0	10.3	0.0	0.0	41.8(25)	44.4(25)
26	Portugal	10.0	15.5	5.0	4.1	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	40.0(28)	43.8(26)
27	Romania	7.5	11.6	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	41.3(26)	42.9(27)
28	Philippines	7.5	11.6	5.0	4.1	4.4	4.5	0.0	0.0	5.0	5.2	0.0	0.0	36.5(38)	42.3(28)
29	Greece	7.5	11.6	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	38.0(30)	41.7(29)
	Servia	7.5	11.6	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	38.0(30)	41.7(29)
31	Poland	7.5	11.6	0.0	0.0	1.1	1.1	4.0	1.5	10.0	10.3	0.0	0.0	37.7(34)	40.9(31)
32	Slovenia	7.5	11.6	5.0	4.1	0.0	0.0	4.0	1.5	5.0	5.2	1.3	1.6	38.0(30)	39.9(32)
33	Canada	2.5	3.9	2.5	2.1	3.3	3.4	2.0	0.8	10.0	10.3	2.5	3.0	38.0(30)	38.9(33)
34	Spain	7.5	11.6	5.0	4.1	3.3	3.4	4.0	1.5	2.5	2.6	0.0	0.0	37.2(36)	38.6(34)
	Uruguay	2.5	3.9	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	41.3(26)	38.6(34)
36	Fiji	10.0	15.5	5.0	4.1	0.0	0.0	2.0	0.8	2.5	2.6	0.0	0.0	32.5(45)	38.2(36)
37	Slovakia	10.0	15.5	0.0	0.0	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	31.7(47)	36.9(37)
38	Argentina	2.5	3.9	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	38.7(29)	35.8(38)
39	Kenya	2.5	3.9	7.5	6.2	2.2	2.2	2.0	0.8	5.0	5.2	2.5	3.0	36.2(39)	35.3(39)
40	Hong Kong	5.0	7.7	7.5	6.2	1.1	1.1	2.0	0.8	5.0	5.2	0.0	0.0	34.3(42)	34.9(40)
41	Israel	0.0	0.0	5.0	4.1	5.5	5.6	2.0	0.8	10.0	10.3	0.0	0.0	37.5(35)	34.7(41)
42	Albania	2.5	3.9	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	35.3(40)	34.6(42)
	Swaziland	2.5	3.9	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	35.3(40)	34.6(42)
44	Morocco	2.5	3.9	0.0	0.0	2.2	2.2	2.0	0.8	10.0	10.3	2.5	3.0	32.0(46)	33.7(44)
45	Russia	5.0	7.7	5.0	4.1	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	33.5(43)	32.7(45)
46	Peru	7.5	11.6	0.0	0.0	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	29.3(49)	32.3(46)
47	Tadzhikistan	0.0	0.0	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	37.2(36)	32.2(47)
48	Panama	2.5	3.9	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	33.0(44)	30.0(48)
49	Japan	2.5	3.9	2.5	2.1	5.5	5.6	2.0	0.8	5.0	5.2	0.0	0.0	29.2(50)	29.1(49)
50	South Africa	0.0	0.0	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	31.2(48)	28.1(50)

Table 9. **Ranking of indices for legislative budget institutions of each country after weighting (cont.)**

Ranking	Name of Country	Financial Authority						Organisation capacity						Budget Institution Index (BI vs BI ₀) (Rank)	
		Amendment authority		Reversion		Flexibility		Time		Committee		Research			
		a	a ₀	v	v ₀	F	f ₀	t	t ₀	c	c ₀	r	r ₀	BI	BI ₀
51	Taiwan	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	10.0	10.3	0.0	0.0	27.5(51)	26.2(51)
52	United Kingdom	2.5	3.9	5.0	4.1	1.1	1.1	0.0	0.0	2.5	2.6	2.5	3.0	22.7(57)	24.5(52)
53	Ghana	2.5	3.9	7.5	6.2	1.1	1.1	2.0	0.8	2.5	2.6	0.0	0.0	26.0(53)	24.2(53)
54	Ireland	0.0	0.0	5.0	4.1	6.7	6.8	2.0	0.8	2.5	2.6	0.0	0.0	27.0(52)	23.8(54)
55	Malawi	0.0	0.0	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	25.5(54)	22.3(55)
56	New Zealand	2.5	3.9	3.3	2.7	3.3	3.4	2.0	0.8	2.5	2.6	0.0	0.0	22.7(57)	22.1(56)
57	France	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	7.5	7.7	0.0	0.0	23.3(56)	21.9(57)
58	Australia	2.5	3.9	2.5	2.1	3.3	3.4	2.0	0.8	2.5	2.6	0.0	0.0	21.3(59)	21.0(58)
59	Thailand	0.0	0.0	5.0	4.1	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	25.2(55)	19.8(59)
60	Chile	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	19.2(60)	17.6(60)

Source: Author's calculations.

5. Conclusion and implications

This study has been conducted to compile indices for measuring legislative budgetary institutions of each country in the course of critically reviewing preceding studies on theories and models of legislative budgetary institutions and making indices for legislative budgetary institutions more relevant by deriving and applying weighting to sub-indices of each index. Implications of this study can be presented as mainly focussed on differences between this study and preceding studies, including Wehner's (2006; 2010).

Above all, this study approached the legislature's capacity from a comprehensive and three-dimensional point of view in order to compile sub-indices of each legislative budgetary institution index. Preceding studies (Von Hagen, 1992; Alesina et al., 1999; Gleich, 2003) on the compilation of indices of legislative budgetary institutions failed to comprehensively explain attributes of various legislative budgetary institutions of each country by deeming budget institutions as part of the budget process and thus overly focusing the measurement of budget institutions on the structural attributes and had their limitations in that only the static aspects of budget institutions were emphasised in measuring such indices. On the contrary, the intention of this study is to approach the financial authority vested to the Legislature and the Legislature's capacity to exercise such authority from a comprehensive point of view in measuring such indices, as Wehner (2006; 2010) did. Furthermore, another intention of this study is to ensure adequacy in the process of compilation and measurement of indices by subdividing indices of the indexes presented in Wehner's study (2006) and by expanding the scope of countries subject to comparison and measurement, taking into consideration the characteristics of budget institutions. Furthermore, this study is significant in that the legislature's functional aspect has been examined by measuring the capacity of a fiscal institution or committee that recently emerged in order to enhance the legislature's financial capacity.

In the meantime, the accuracy of indices in this study has been improved by deriving relative weighting for sub-indices of each legislative budgetary institution index through AHP questionnaire surveys and analyses and by comparing them with those in preceding studies. In other words, distinctive from Wehner's studies (2006; 2010), in which sub-indices were implicated in each index in a two-dimensional and juxtapositional manner,

the relative importance that each of the selected sub-indices was measured in this study and weighting for each index was allocated to compile and measure indices. The implication of such AHP analysis can be found from the effort to ensure the practicality and accuracy of measurement of indices and to present a scheme to compile more universal and relevant indices.

Notwithstanding the significance of this study, it has the following limitations, which are expected to be rectified and supplemented by subsequent studies. Efforts have been made to improve the adequacy of elements of indices for legislative budgetary institutions, above all, it is necessary to take into account not only the legislature's authority and functions in regard to the establishment of regulations on finance, auditors' position, and the utilisation of pre-budgeting but also sub-indices with more various elements are added, such as elements of legal systems and related agencies. This study has another limitation in that it fails to fully explain the actual conditions of operation of institutions in the unique political, social, and economic settings of each country. Although the legislative budgetary institutions of each country can be expressed with quantified indices, the allocation of financial authority and practices between the executive and the legislature might exist, which cannot be completely connoted by such indices. For example, it is apparent that the executive in Uganda, Cambodia, etc. is dominant over the implementation of the budget under the presidential system, but their indices for legislative budgetary institutions were ranked at the top level. This means that legislative budgetary institutions that can guarantee the legislature's financial authority has been prepared in such countries but related institutions failed to function as intended in actual operation. If the fact that the executive takes the initiative in state management in developing countries is taken into consideration, it can be said that quantified indices cannot reflect the realities of a particular country properly. Therefore, it is necessary to continue study and research through analysis of cases to identify and explain the gap that appears between established institutions and the practical operation of such institutions.

Notes

1. A budgetary institution affects, not only the participants' strategies and the possibility of mutual co-operations of participants, but also the extent of each participant's responsibilities for performance of a budget (Hallerberg, 2009: 19; Von Hagen, 2007: 27-29).
2. The term "democracy" here means that the participation of the legislature, the representative body of citizens, is guaranteed institutionally in the process of formulating a budget bill and that a budget bill is formulated in accordance with democratic procedures, not under executive secrecy and autocracy.
3. For more details on preceding studies, refer to Von Hagen (1992); Alesina et al. (1999); Gleich (2003); Wehner (2006) and Kim and Mun (2012).
4. The ten sub-indices are: 1) Provisions of the constitution and budgetary laws regarding fiscal deficits; 2) whether macroeconomic programmes may impose constraints on the executive during a budget compilation period; 3) the extent of the Government's discretion in determining the limits on debts; 4) whether institutions at the stage of compilation of a budget are vertical or horizontal; 5) the legislature's power to revise a budget; 6) the level of the executive's discretion in implementation, when the legislature decline a budget; 7) the executive's method for reallocation or virement for measuring the executive's discretion in implementation; 8) whether the executive may reduce the amount of a budget after the budget is passed; 9) the level of contracts on obligations between the central government and other agencies; 10) and the measurement of discretion in obligations between a local government and public corporations.
5. Lienert (2005) attempted to confirm that the clearer the level of separation of power between the legislature and the executive was, the greater the legislature's power in determining a budget

became. For this purpose, Lienert quantified the level of separation of power between the legislature and the executive and analysed political systems under which the legislature had a strong budgetary prerogative. For such analysis, 28 OECD countries were classified into five types depending upon the form of government, the legislature's budgetary prerogative in such countries was converted into indices. For more details, refer to Lienert's study (2005).

6. The term "complex index" is a concept that summarises a number of sub-indices and includes all quantitative and qualitative values measured with a series of observed facts. Furthermore, a complex index often indicates the relative spatial position or temporally changing direction of a certain sector (a certain country, region, or industry). In general, a complex index is a useful means that integrates and organises a large quantity of information about the relevant subject in a simple and clear form. Thus, a complex index is utilised as a tool for communicating opinions or making decisions on policies related to various political, economic, or social areas issues or affairs. In particular, it is a concept necessary for conducting a cross-sectional comparison of specific economic phenomena in a number of countries, regions, or industries or for analysing time-series trends in different time-frames and useful for grasping general trends, establishing goals for performance, evaluating the level of achievement, and establishing the order of priority of policies.
7. When the AHP technique is applied, outcomes are derived through pair-wise comparisons, based on an individual's subjective judgments, and thus it is crucial how resolutely consistency in the outcomes of questionnaires can be maintained, inconsistency is linked directly to the issue of reliability, and therefore the consistency index (CI) of each answer collected through questionnaire surveys in order to apply AHP has been analysed thoroughly.
8. Depending upon how to aggregate priority vectors of individual questions and finally induce the priority vector of the entire group, the aggregates are classified into Aggregate Individual Priority (AIP) and Aggregate Individual Judgment (AIJ) (Saaty, 1990; Lee, 2000). Since AIJ that maintains the reciprocal axiom is most broadly applied, the geometric mean approach is applied to this study.
9. The methods to measure variables are usually discussed at the part regarding design of a study. However, upper and lower indices of legislative budgetary institutions are compiled in this study, based on the methods presented by preceding studies for the compilation of indices, but questions for each sub-index are segmented and the contents are modified and supplemented in order to consider characteristics of legislative budgetary institution three-dimensionally, differently from preceding studies. In other words, the intention was to present it as part of outcomes of the study in that a further improved framework was presented to compile and measure indices for legislative budgetary institutions.
10. Most indices of budget institutions are aggregated in an additive form (Von Hagen, 1992; Lienert, 2005; Alt and Lassen, 2006; Hallerberg et al. 2007; Wehner, 2010). While the additive aggregation method has an advantage to simplify phenomena (Wehner, 2010), theoretically, a problem can possibly arise in the substitutability of elements which are sub-indices. In other words, the idea to compile indices by aggregating all sub-indices is based on the premise that questions have equal weighting. Moreover, it is also based on the premise that different elements of an index are fully substitutable. In order to look into the calculation of indices through linear summation, Spearman correlation test was conducted in this study. When the most extreme values were taken from outcomes of the analysis, the lowest coefficient appeared to be 0.880, and the rank correlation between indices appeared statistically meaningfully high, no matter which index was used. Therefore, it was acceptable to calculate indices through linear summation, and it was found that substitutability existed between sub-indices.
11. For empirical analysis, Expert Choice 2000, which is one of AHP analysis programmes, and Microsoft Excel 2007 were used.
12. In AHP analysis, not many respondents are needed. In certain cases, one person may make a decision or several people may make a decision collectively. It is more important, rather than the number of respondents, to consider whether respondents have expertise and whether they can actually influence decision-making (Lee, Byung Wu et al., 2011).
13. The National Assembly Budget Office's pool of overseas financial experts is a database mainly containing data about budget experts from various countries, who attended meetings of the network of Parliamentary Budget Officials (PBO) held by OECD and financial experts from international organisations and academic circles and have been updated yearly since the Budget Office was inaugurated. 44 people so selected are budget experts from many countries in the world, comprised of public officials involved in the budget process (in the Legislature and in the Executive), budget researchers (professors and doctors), staff members of international organisations (OECD, IMF), etc.

14. The reason was that Legislature experts comprised approximately 60% of the pool of overseas financial experts, which was the population. If there was a difference in the weights derived by such sampling according to the responses from the Legislature group and the non-Legislature group, however, it was possible to obtain outcomes biased as a result of selection of an excessive number of people from a specific group. Therefore, it was necessary to verify whether there was a statistically meaningful difference in the relative importance of each item forming the legislative budgetary institutions that respondents from both groups recognised.
15. Generally, if the consistency ratio does not exceed 0.1, it is classified as reasonable, if it does not exceed 0.2, as acceptable, but if it exceeds 0.2, as unacceptable (Saaty, 1990: 17-21).
16. For instance, a public official from the Executive, who used to focus on budget compilation, may attach importance to the flexibility during implementation among six sub-indices, while a public official from the Legislative, who is concerned about budget scrutiny, may give the higher priority to the authority to amend a budget.
17. In order to ascertain whether there is a meaningful difference in the ranking of indices for legislative budgetary institutions of all 60 countries after weighting allocation, Spearman coefficients were measured to test correlations between variables that have a nominal scale. Since the indices for legislative budgetary institutions were measured with information entered directly by individual countries, they have the nature of complex indices for comparison of attributes of institutions in many countries. Therefore, the relative position of each country may be determined by the priority indicated by such indices. If the statistically meaningful difference in the ranking of all countries before and after being weighted is great, however, the statistical safety of the model that compiles such indices may be questioned. Since it is confirmed as a result of Spearman correlation analysis that two variables have a statistically high correlation of 0.975 and the change in the ranking of all 60 countries, which arises after being weighted, is not statistically meaningful, the safety of the model of application of weights is deemed secured.
18. The reason is that the weighting for the index of financial authority (0.565) is higher than the weighting for the index of organisational capacity.
19. Legislative budget institution indices are power relations between the Executive and the Legislature in the budget process, which are converted into numerical values, and the higher indices increase, based on median values, the greater the Legislature's power over the budget process becomes. Be careful to avoid confusing measured values of indices with points usually expressed percentile and deeming that an index with the greater value is superior. For example, United States' indices had the highest values and there was a large gap of at least 20 points between United States and Sweden whose indices had the second highest values. This means that the United States Legislature is in an absolutely superior position. However, the latest shutdown of the United States Government can be counted as a problem arising from the Legislature's excess authority over the budget process. In other words, if the values of indices are excessively high or low, the balance in the distribution of powers between the Executive and the Legislature over the budget process may be broken, and losses at the national level and a crisis may be possibly caused as excessive powers are given to a specific participant.

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ANNEX A

**Outcomes of measurement of indices for legislative budget institutions:
Comparison with Wehner's model (2010)**

Country	Financial authority						Organisational capacity						Legislative Budget Institution Index (BI) (Rank)	
	Amendment authority		Reversion		Flexibility		Time		Committee		Research			
	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim	Wehner	Kim
Australia	2.5	2.5	3.3	2.5	0.0	3.3	0.0	2.0	6.7	2.5	0.0	0.0	20.8(26)	21.3(30)
Austria	10.0	10.0	6.7	5.0	6.7	2.2	3.3	2.0	6.7	7.5	0.0	0.0	55.6(8)	44.5(13)
Belgium	10.0	10.0	10.0	5.0	0.0	3.3	0.0	2.0	8.3	10.0	0.0	2.5	47.2(13)	54.7(6)
Canada	2.5	2.5	3.3	2.5	0.0	3.3	0.0	2.0	6.7	10.0	2.5	2.5	25.0(25)	38.0(20)
Czech Republic	10.0	7.5	6.7	5.0	0.0	0.0	3.3	4.0	5.0	10.0	0.0	0.0	41.7(15)	44.2(14)
Demark	10.0	10.0	6.7	5.0	3.3	10.0	6.7	4.0	6.7	5.0	0.0	3.8	55.6(8)	63.0(3)
Finland	10.0	10.0	0.0	2.5	6.7	4.4	3.3	4.0	3.3	5.0	0.0	0.0	38.9(16)	43.2(17)
France	2.5	2.5	0.0	0.0	0.0	0.0	3.3	4.0	5.0	7.5	0.0	0.0	18.1(29)	23.3(27)
Germany	10.0	10.0	6.7	5.0	3.3	3.3	6.7	4.0	5.0	5.0	0.0	0.0	52.8(10)	45.5(12)
Greece	0.0	7.5	6.7	5.0	0.0	3.3	0.0	2.0	5.0	5.0	0.0	0.0	19.4(28)	38.0(20)
Hungary	10.0	7.5	10.0	2.5	6.7	1.1	3.3	4.0	10.0	10.0	0.0	0.0	66.7(2)	41.8(18)
Iceland	10.0	10.0	0.0	5.0	6.7	6.7	3.3	4.0	3.3	5.0	0.0	0.0	38.9(16)	51.2(11)
Ireland	0.0	0.0	0.0	5.0	3.3	6.7	0.0	2.0	6.7	2.5	0.0	0.0	16.7(30)	27.0(26)
Italia	10.0	10.0	0.0	5.0	3.3	2.2	3.3	4.0	3.3	5.0	0.0	0.0	33.3(22)	43.7(16)
Japan	2.5	2.5	10.0	2.5	6.7	5.5	3.3	2.0	6.7	5.0	5.0	0.0	56.9(7)	29.2(25)
Luxembourg	10.0	10.0	10.0	10.0	0.0	2.2	3.3	4.0	6.7	5.0	0.0	0.0	50.0(12)	52.0(10)
Mexico	7.5	2.5	10.0	10.0	0.0	3.3	0.0	4.0	6.7	10.0	7.5	7.5	52.8(10)	62.2(4)
Netherlands	10.0	10.0	6.7	7.5	6.7	3.3	6.7	4.0	3.3	2.5	2.5	5.0	59.7(6)	53.8(7)
New Zealand	2.5	2.5	3.3	3.3	6.7	3.3	0.0	2.0	3.3	2.5	0.0	0.0	26.4(24)	22.7(28)
Norway	10.0	10.0	10.0	10.0	6.7	3.3	3.3	4.0	6.7	10.0	0.0	0.0	61.1(4)	62.2(4)
Poland	7.5	7.5	0.0	0.0	0.0	1.1	3.3	4.0	6.7	10.0	5.0	0.0	37.5(20)	37.7(22)
Portugal	10.0	10.0	6.7	5.0	0.0	0.0	3.3	4.0	3.3	5.0	0.0	0.0	38.9(16)	40.0(19)
Slovakia	10.0	10.0	0.0	0.0	3.3	0.0	3.3	4.0	3.3	5.0	0.0	0.0	33.3(22)	31.7(24)
Korea	2.5	2.5	6.7	5.0	3.3	0.0	3.3	4.0	3.3	10.0	7.5	10.0	44.4(14)	52.5(9)
Spain	5.0	7.5	6.7	5.0	3.3	3.3	3.3	4.0	5.0	2.5	0.0	0.0	38.9(16)	37.2(23)
Sweden	10.0	10.0	10.0	10.0	6.7	6.7	3.3	4.0	6.7	10.0	2.5	1.3	65.3(3)	70.1(2)
Switzerland	10.0	10.0	10.0	10.0	10.0	3.3	3.3	4.0	3.3	5.0	0.0	0.0	61.1(4)	53.8(7)
Turkey	5.0	7.5	10.0	7.5	0.0	0.0	3.3	4.0	3.3	7.5	0.0	0.0	36.1(21)	44.2(14)
United Kingdom	2.5	2.5	3.3	5.0	3.3	1.1	0.0	0.0	3.3	2.5	0.0	2.5	20.8(26)	22.7(28)
United States	10.0	10.0	10.0	10.0	6.7	7.7	10.0	8.0	6.7	10.0	10.0	10.0	88.9(1)	92.8(1)

Source: Author's calculations.

ANNEX B

Points for items of weighted indices for legislative budget institutions

Name of country		Financial authority						Organisational capacity						Legislative Budget Institution Index (BI vs BI ₀)	
		Amendment authority		Reversion		Flexibility		Time		Committee		Research			
		a	a ₀	v	v ₀	f	f ₀	t	t ₀	c	c ₀	r	r ₀	BI	BI ₀
1	Albania	2.5	3.9	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	35.3	34.6
2	Argentina	2.5	3.9	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	38.7	35.8
3	Australia ¹	2.5	3.9	2.5	2.1	3.3	3.4	2.0	0.8	2.5	2.6	0.0	0.0	21.3	21.0
4	Austria	10.0	15.5	5.0	4.1	2.2	2.2	2.0	0.8	7.5	7.7	0.0	0.0	44.5	50.6
5	Belgium	10.0	15.5	5.0	4.1	3.3	3.4	2.0	0.8	10.0	10.3	2.5	3.0	54.7	61.7
6	Brazil	7.5	11.6	10.0	8.2	3.3	3.4	6.0	2.3	7.5	7.7	0.0	0.0	57.2	55.3
7	Bulgaria	10.0	15.5	5.0	4.1	3.3	3.4	2.0	0.8	10.0	10.3	0.0	0.0	50.5	56.7
8	Cambodia	7.5	11.6	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	43.7	47.5
9	Canada	2.5	3.9	2.5	2.1	3.3	3.4	2.0	0.8	10.0	10.3	2.5	3.0	38.0	38.9
10	Chile	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	19.2	17.6
11	Czech Republic	7.5	11.6	5.0	4.1	0.0	0.0	4.0	1.5	10.0	10.3	0.0	0.0	44.2	45.9
12	Demark	10.0	15.5	5.0	4.1	10.0	10.2	4.0	1.5	5.0	5.2	3.8	4.6	63.0	68.4
13	Fiji	10.0	15.5	5.0	4.1	0.0	0.0	2.0	0.8	2.5	2.6	0.0	0.0	32.5	38.2
14	Finland	10.0	15.5	2.5	2.1	4.4	4.5	4.0	1.5	5.0	5.2	0.0	0.0	43.2	47.8
15	France	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	7.5	7.7	0.0	0.0	23.3	21.9
16	Germany	10.0	15.5	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	45.5	49.4
17	Ghana	2.5	3.9	7.5	6.2	1.1	1.1	2.0	0.8	2.5	2.6	0.0	0.0	26.0	24.2
18	Greece	7.5	11.6	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	38.0	41.7
19	Hong Kong	5.0	7.7	7.5	6.2	1.1	1.1	2.0	0.8	5.0	5.2	0.0	0.0	34.3	34.9
20	Hungary	7.5	11.6	2.5	2.1	1.1	1.1	4.0	1.5	10.0	10.3	0.0	0.0	41.8	44.4
21	Iceland	10.0	15.5	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	51.2	55.2
22	Indonesia	10.0	15.5	5.0	4.1	6.7	6.8	4.0	1.5	5.0	5.2	0.0	0.0	51.2	55.2
23	Ireland	0.0	0.0	5.0	4.1	6.7	6.8	2.0	0.8	2.5	2.6	0.0	0.0	27.0	23.8
24	Israel	0.0	0.0	5.0	4.1	5.5	5.6	2.0	0.8	10.0	10.3	0.0	0.0	37.5	34.7
25	Italy	10.0	15.5	5.0	4.1	2.2	2.2	4.0	1.5	5.0	5.2	0.0	0.0	43.7	47.5
26	Japan	2.5	3.9	2.5	2.1	5.5	5.6	2.0	0.8	5.0	5.2	0.0	0.0	29.2	29.1
27	Kenya	2.5	3.9	7.5	6.2	2.2	2.2	2.0	0.8	5.0	5.2	2.5	3.0	36.2	35.3
28	Korea	2.5	3.9	5.0	4.1	0.0	0.0	4.0	1.5	10.0	10.3	10.0	12.0	52.5	53.0
29	Latvia	5.0	7.7	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	45.5	45.1
30	Luxembourg	10.0	15.5	10.0	8.2	2.2	2.2	4.0	1.5	5.0	5.2	0.0	0.0	52.0	54.4
31	Malawi	0.0	0.0	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	25.5	22.3
32	Mexico	2.5	3.9	10.0	8.2	3.3	3.4	4.0	1.5	10.0	10.3	7.5	9.0	62.2	60.5
33	Morocco	2.5	3.9	0.0	0.0	2.2	2.2	2.0	0.8	10.0	10.3	2.5	3.0	32.0	33.7
34	Netherlands	10.0	15.5	7.5	6.2	3.3	3.4	4.0	1.5	2.5	2.6	5.0	6.0	53.8	58.5
35	New Zealand	2.5	3.9	3.3	2.7	3.3	3.4	2.0	0.8	2.5	2.6	0.0	0.0	22.7	22.1
36	Norway	10.0	15.5	10.0	8.2	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	62.2	64.8
37	Panama	2.5	3.9	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	33.0	30.0
38	Peru	7.5	11.6	0.0	0.0	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	29.3	32.3

Points for items of weighted indices for legislative budget institutions (cont.)

Name of country		Financial authority						Organisational capacity						Legislative Budget Institution Index (BI vs BI _ω)	
		Amendment authority		Reversion		Flexibility		Time		Committee		Research			
		a	a _ω	v	v _ω	f	f _ω	t	t _ω	c	c _ω	r	r _ω	BI	BI _ω
39	Philippines	7.5	11.6	5.0	4.1	4.4	4.5	0.0	0.0	5.0	5.2	0.0	0.0	36.5	42.3
40	Poland	7.5	11.6	0.0	0.0	1.1	1.1	4.0	1.5	10.0	10.3	0.0	0.0	37.7	40.9
41	Portugal	10.0	15.5	5.0	4.1	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	40.0	43.8
42	Romania	7.5	11.6	5.0	4.1	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	41.3	42.9
43	Russia	5.0	7.7	5.0	4.1	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	33.5	32.7
44	Serbia	7.5	11.6	5.0	4.1	3.3	3.4	2.0	0.8	5.0	5.2	0.0	0.0	38.0	41.7
45	Slovakia	10.0	15.5	0.0	0.0	0.0	0.0	4.0	1.5	5.0	5.2	0.0	0.0	31.7	36.9
46	Slovenia	7.5	11.6	5.0	4.1	0.0	0.0	4.0	1.5	5.0	5.2	1.3	1.6	38.0	39.9
47	South Africa	0.0	0.0	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	31.2	28.1
48	Spain	7.5	11.6	5.0	4.1	3.3	3.4	4.0	1.5	2.5	2.6	0.0	0.0	37.2	38.6
49	Swaziland	2.5	3.9	5.0	4.1	6.7	6.8	2.0	0.8	5.0	5.2	0.0	0.0	35.3	34.6
50	Sweden	10.0	15.5	10.0	8.2	6.7	6.8	4.0	1.5	10.0	10.3	1.3	1.6	70.1	73.3
51	Switzerland	10.0	15.5	10.0	8.2	3.3	3.4	4.0	1.5	5.0	5.2	0.0	0.0	53.8	56.2
52	Taiwan	2.5	3.9	0.0	0.0	0.0	0.0	4.0	1.5	10.0	10.3	0.0	0.0	27.5	26.2
53	Tajikistan	0.0	0.0	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	37.2	32.2
54	Thailand	0.0	0.0	5.0	4.1	1.1	1.1	4.0	1.5	5.0	5.2	0.0	0.0	25.2	19.8
55	Turkey	7.5	11.6	7.5	6.2	0.0	0.0	4.0	1.5	7.5	7.7	0.0	0.0	44.2	45.0
56	Uganda	2.5	3.9	2.5	2.1	5.5	5.6	2.0	0.8	10.0	10.3	5.0	6.0	45.8	47.7
57	United Kingdom	2.5	3.9	5.0	4.1	1.1	1.1	0.0	0.0	2.5	2.6	2.5	3.0	22.7	24.5
58	United States	10.0	15.5	10.0	8.2	7.7	7.9	8.0	3.0	10.0	10.3	10.0	12.0	92.8	94.8
59	Uruguay	2.5	3.9	5.0	4.1	3.3	3.4	4.0	1.5	10.0	10.3	0.0	0.0	41.3	38.6
60	Venezuela	7.5	11.6	5.0	4.1	6.7	6.8	6.0	2.3	5.0	5.2	0.0	0.0	50.3	50.0

Note: 1. ω is weighted with the composite weighting from AHP and has a value of $0 < \omega < 1$.

Source: Author's calculations.

ANNEX C

Superior indices for legislative budget institution with weighting

Country		Financial authority		Organisational capacity		Budget Institution Index	
		FA	FA _ω	OC	OC _ω	BI	BI _ω
1	Albania	23.7	24.7	11.7	9.9	35.3	34.6
2	Argentina	23.7	24.7	15.0	11.1	38.7	35.8
3	Australia ¹	13.8	15.5	7.5	5.6	21.3	21.0
4	Austria	28.7	36.4	15.8	14.2	44.5	50.6
5	Belgium	30.5	38.3	24.2	23.5	54.7	61.7
6	Brazil	34.7	38.7	22.5	16.7	57.2	55.3
7	Bulgaria	30.5	38.3	20.0	18.5	50.5	56.7
8	Cambodia	32.0	37.6	11.7	9.9	43.7	47.5
9	Canada	13.8	15.5	24.2	23.5	38.0	38.9
10	Chile	4.2	6.5	15.0	11.1	19.2	17.6
11	Czech Republic	20.8	26.2	23.3	19.7	44.2	45.9
12	Denmark	41.7	49.7	21.3	18.7	63.0	68.4
13	Fiji	25.0	32.7	7.5	5.6	32.5	38.2
14	Finland	28.2	36.7	15.0	11.1	43.2	47.8
15	France	4.2	6.5	19.2	15.4	23.3	21.9
16	Germany	30.5	38.3	15.0	11.1	45.5	49.4
17	Ghana	18.5	18.6	7.5	5.6	26.0	24.2
18	Greece	26.3	31.8	11.7	9.9	38.0	41.7
19	Hong Kong	22.7	25.0	11.7	9.9	34.3	34.9
20	Hungary	18.5	24.6	23.3	19.7	41.8	44.4
21	Iceland	36.2	44.0	15.0	11.1	51.2	55.2
22	Indonesia	36.2	44.0	15.0	11.1	51.2	55.2
23	Ireland	19.5	18.2	7.5	5.6	27.0	23.8
24	Israel	17.5	16.2	20.0	18.5	37.5	34.7
25	Italy	28.7	36.4	15.0	11.1	43.7	47.5
26	Japan	17.5	19.2	11.7	9.9	29.2	29.1
27	Kenya	20.3	20.5	15.8	14.9	36.2	35.3
28	Korea	12.5	13.3	40.0	39.7	52.5	53.0
29	Latvia	22.2	25.4	23.3	19.7	45.5	45.1
30	Luxembourg	37.0	43.2	15.0	11.1	52.0	54.4
31	Malawi	13.8	12.5	11.7	9.9	25.5	22.3
32	Mexico	26.3	25.8	35.8	34.7	62.2	60.5
33	Morocco	7.8	10.2	24.2	23.5	32.0	33.7
34	Netherlands	34.7	41.7	19.2	16.8	53.8	58.5
35	New Zealand	15.2	16.6	7.5	5.6	22.7	22.1
36	Norway	38.8	45.1	23.3	19.7	62.2	64.8
37	Panama	18.0	18.9	15.0	11.1	33.0	30.0
38	Peru	14.3	21.2	15.0	11.1	29.3	32.3
39	Philippines	28.2	33.7	8.3	8.6	36.5	42.3
40	Poland	14.3	21.2	23.3	19.7	37.7	40.9

Superior indices for legislative budget institution with weighting (cont.)

Country		Financial authority		Organisational capacity		Budget Institution Index	
		FA	FA ω	OC	OC ω	BI	BI ω
41	Portugal	25.0	32.7	15.0	11.1	40.0	43.8
42	Romania	26.3	31.8	15.0	11.1	41.3	42.9
43	Russia	18.5	21.6	15.0	11.1	33.5	32.7
44	Serbia	26.3	31.8	11.7	9.9	38.0	41.7
45	Slovakia	16.7	25.8	15.0	11.1	31.7	36.9
46	Slovenia	20.8	26.2	17.2	13.7	38.0	39.9
47	South Africa	19.5	18.2	11.7	9.9	31.2	28.1
48	Spain	26.3	31.8	10.8	6.8	37.2	38.6
49	Swaziland	23.7	24.7	11.7	9.9	35.3	34.6
50	Sweden	44.5	50.9	25.6	22.4	70.1	73.3
51	Switzerland	38.8	45.1	15.0	11.1	53.8	56.2
52	Taiwan	4.2	6.5	23.3	19.7	27.5	26.2
53	Tajikistan	13.8	12.5	23.3	19.7	37.2	32.2
54	Thailand	10.2	8.7	15.0	11.1	25.2	19.8
55	Turkey	25.0	29.6	19.2	15.4	44.2	45.0
56	Uganda	17.5	19.2	28.3	28.5	45.8	47.7
57	United Kingdom	14.3	15.2	8.3	9.3	22.7	24.5
58	United States	46.2	52.6	46.7	42.2	92.8	94.8
59	Uruguay	18.0	18.9	23.3	19.7	41.3	38.6
60	Venezuela	32.0	37.6	18.3	12.4	50.3	50.0

Note: Each superior index is a value out of 100 points.

ANNEX D

Examples of questions of legislative budget institution indices

Variable	Questions	Answers
Amendment authority	Q40. What is the formal authority of the Legislature to amend the budget proposed by the Executive?	- The Legislature has unrestricted authority to amend the budget. - The Legislature may make amendments but only if it does not change the total deficit/surplus proposed by the Executive. - The Legislature may only decrease existing expenditures/revenues (i.e. the Legislature cannot increase existing items nor create new ones) - The Legislature may not make any changes; it can only approve or reject the budget as a whole
Reversion	Q43. If the budget is declined by the Legislature before the start of the fiscal year which of the following describes the consequences?	- The Executive's budget proposal takes effect - The Executive's budget proposal takes effect on an interim basis, i.e. for a limited period - Last year's budget takes effect on an interim basis, i.e. for a limited period - Other interim measures are voted on by the Legislature - Expenditure without legislative approval are not allowed
Flexibility	Q.53. Are ministers allowed to reallocate/vire funds between line items within their responsibility? Q.61. Did the budget for the last fiscal year include any central reserve funds to meet unforeseen expenditures? Q.54. Can ministers carry-over unused funds or appropriations from one year to another?	- No - Yes, without restrictions - Yes, with restrictions - With the approval of the Legislature - With the approval of the Finance Minister - Yes - No - No - Yes, without restrictions - Yes, with restrictions - With the approval of the Legislature - With the approval of the Finance Minister
Time for scrutiny	Q 39. In practice, what is the timeframe for the following stages of budget approval? The budget is presented to the Legislature	- 10 months to 1 month before - 1 month after-10 months after
Committee capacity	Q 33. In view of the following types of committee structures for dealing with the budget, please indicate which arrangement applies to each chamber	- Q.33.a A single budget committee formally considers all budget-related matters, but it does not have to follow recommendations of sectoral committees - Q.33.b A single budget committee formally considers the budget, but members from sectoral committees attend meetings of the budget committee - Q.33.c A single budget committee formally considers budget aggregates and sectoral committees consider spending for sector specific appropriations - Q.33.d Sectoral committees formally consider appropriations for each respective sector. No budget committee is in place - Q.33.e No formal committee involvement, but committees may choose to consider aspects of the budget - Q.33.f Other
Access to Budgetary Information	Q.34. Is there a specialized budget research office/unit belonging to the Legislature to conduct analyses of the budget?	- No - Yes, there is a specialized budget research office/unit

It's spending that matters: From robust control theory to practical heuristics

by
Fred Thompson*

The problems caused by state and local revenue volatility are inherently challenging. Oregon has an especially volatile revenue structure, which can cause all sorts of problems as the state moves through the business cycle. Nevertheless, we have concluded that these problems are caused less by revenue volatility per se than by adjusting spending up and down to match current revenue flows, from growing spending at unsustainable rates during booms and cutting back precipitously during busts. The mild recession of 2001-02 had a particularly severe aftermath in Oregon. This event shocked the state's policy makers into addressing the revenue volatility issue, making sense of it, and taking steps that greatly mitigated the adverse effects of the "Great Recession". This article describes three things: the public-policy processes that produced this moderately happy outcome, my own voyage of discovery as I observed/participated in these processes, and a set of practical mechanisms states can use to stabilise spending.

JEL classification: H11, H20, H70

Keywords: Oregon, Great Recession, cash flows, income taxes, revenue volatility

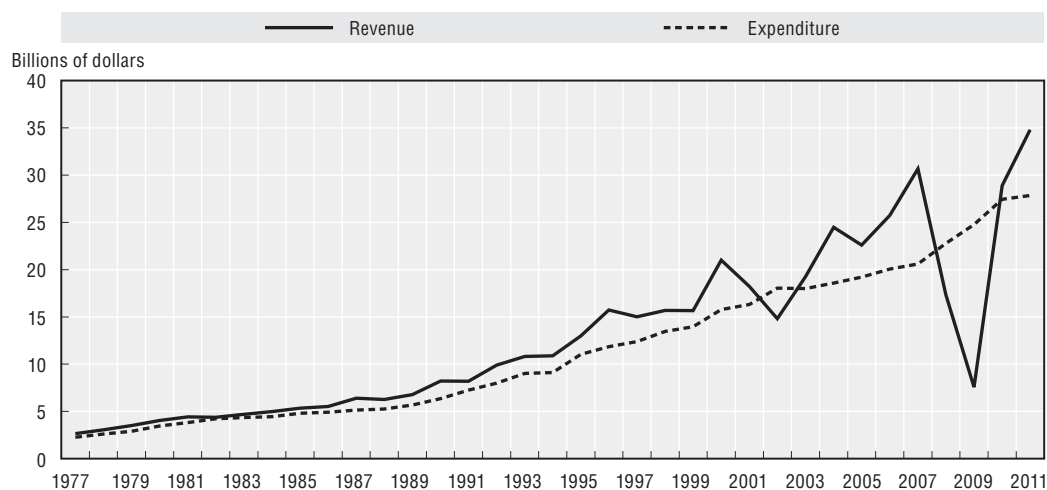
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1. Introduction

Most states took a big hit from the Great Recession. One might think that Oregon, with what the *Economist* magazine described as “America’s most volatile tax system”, would have been road kill.

Figure 1 comes from research done with my colleagues Kawika Pierson and Mike Hand. It shows the state of Oregon’s total income and outlays, in billions of nominal dollars as reported in the US Census from 1977-2011 (Pierson, Hand, and Thompson, 2015). Usually, analysts focus on general revenue/expenditures, rather than totals, or the even narrower category, “own source” revenue, which excludes intergovernmental receipts, and general fund outlays. Moreover, we usually scale these measures by the CPI or state product to present a somewhat more realistic view of relative burdens and government activities over time. But, from a financial or treasury management standpoint, gross cash flows are of considerable interest.

Figure 1. **Oregon’s total revenue and total expenditure**



Source: Pierson, K. et al. (2015).

The most striking features of this graph are the dramatic effect of the Great Recession on total revenue, confirming the *Economist*’s claim, and its modest effects on outlays, our focus in this paper. Indeed, by many measures the Great Recession’s consequences were less severe than were those brought about the much smaller recession at the start of the century.

One might argue that Figure 1 is misleading because the revenue line is distorted by fluctuations in the value of the state’s investment portfolio: most of the difference in gross revenues between 2007 and 2008 and virtually all of the difference between the 2008 and 2009 were due to losses to the state’s investment funds, approximately USD 12 billion in 2008-09.

Nevertheless, the smaller losses to the portfolio in 2001-03 triggered a bigger crisis than in 2007-09.

How, then, did Oregon manage to negotiate the Great Recession with so little pain? The broad answer is that Oregon was both relatively smart and relatively lucky. First, the smart part: Oregon had prepared for recession, if not necessarily the Great Recession. An earlier downturn in 2001-03 served as a wake up call for the state's leaders, leading them to focus their efforts on anticipating and mitigating the fiscal problems that business cycles cause, understanding how booms and busts affect the state's cash flows, recognising the strengths and weaknesses of the state's fiscal levers at the state's disposal, and fitting these things together to put the state on a more stable fiscal footing. As a result of these efforts, the state's leaders redefined the problem they needed to solve, from one that focused on fixing revenue volatility, to one that focused on budget stabilisation, primarily by aligning spending growth with the state's long-term revenue growth trend, but also by using savings and debt to smooth spending.¹ As for the lucky part, Oregon was endowed with an idiosyncratic state and local tax system, featuring dependence upon progressive, highly income-elastic, state personal-income taxes and growth-capped local property tax assessments. This system automatically insured adequate long-run state revenue growth (Alm and Sjoquist, 2014) and both constrained local spending growth and stabilised it over time (Thompson and Walker, 2014); it also forestalled state officials from shifting financial obligations to local jurisdictions during economic downturns. Of course, state officials (and voters) deserve some credit for recognising that these are, in fact, features, and not bugs, and for reinforcing the system, when under stress, rather than fundamentally altering it.

2. A narrative of events

As Tim Nesbitt, Governor Ted Kulongoski's deputy chief of staff, explained with respect to the 2002 recession: "We learned a lot from the downturn. Revenue is much more volatile than we expected. You need to prepare for the swings. The question is how?" During that emergency, the Governor (2003-10) had established a special unit within the Department of Administrative Services' Budget Office to produce a medium-term financial programme, which was issued along with the budget, aimed at identifying fiscal misalignments in advance and introducing corrective measures. This unit was charged with working closely with the Treasury Department and Secretary of State's Office (both constitutionally independent of the executive), as well as the Governor's cabinet, especially the Departments of Revenue and Transportation, to co-ordinate financial coverage operations (debt and investment management), utilise cash holdings more efficiently, and generally manage financial assets and liabilities better. This unit also served as the main interface between Gov Kulongoski's staff and the Joint Legislative Task Force on Comprehensive Revenue Restructuring (OR House Bill 2530, 30 June 2007), about which I will say more in a bit.

In carrying out its assigned tasks, the financial planning unit relied heavily on three resources: *Growth and Variability in State Tax Revenue* by Randall Holcombe and Russell Sobel (1997), *Volatile States* by Mark Crain (2003), and "Spending Stabilisation Rules: A Solution to Recurring State Budget Crises?" by Donald Schunk and Douglas Woodward (2005), and consequently so too did the Joint Task Force and my academic collaborators and I. The lessons the fiscal planning unit took from Holcombe and Sobel (1997) are that "most of the blame for state fiscal crises must be placed on the budgeting practices of state governments" (Holcombe and Sobel, 1997:1) – rapidly increasing spending during booms, cutting during busts;

that the need for cuts is induced by cyclical volatility in revenue streams; that adding a consumption-based tax to the state's tax system would not necessarily reduce cyclical revenue volatility but would probably reduce long-term revenue growth;² that revenue volatility can't be entirely suppressed, and that the state should "accommodate the inevitable cyclical variability in revenues by smoothing expenditures over the business cycle" (Holcombe and Sobel, 1997: xvi). Crain (2003) contributed three basic ideas: that, while the basic *ex post facto* multiplicative decomposition of revenue change/growth divides it into three components – trend, cyclical, and irregular variation, *ex ante* we have only the trend and volatility, defined in terms of the *mean* and *variance* of the growth rate; at the state level, faster growth in the underlying economy tends to be associated with greater variance; and evidence that most of the costs of revenue volatility result from the unstable public spending that it can, but need not, induce. Schunk and Woodward (2005) showed that in most cases this problem could be fixed by increasing "spending no faster than the rate of inflation plus the long-term real growth rate of the underlying economy", regardless of actual revenue growth in any given year, with the remainder put aside for a rainy day.

Consequently, the key element of the financial plan was a cast-iron multi-year spending target, initially comprehending the following two biennia and, in 2009, extended to comprehend the next ten years. The initial spending target was more or less arbitrary: planned spending growth was set equal to the average rate of revenue growth over the previous business cycle less 1.5%, which turned out to be significantly less than realised revenue growth over the first planning cycle. After 2006, the medium-term forecast was based upon exponential smoothing of past revenue growth less 1%.

Next, under the rubric of improving financial coverage operations, the state clawed back most of the unsustainable option it had granted members of Oregon's Public Employee Retirement System (PERS) on the so-called individual contribution portion of their retirement accounts (Hansen, Dothan, and Thompson, 2007) and funded PERS's remaining liabilities by issuing long-term, tax-exempt bonds. In this instance, Treasury recommended and the medium-term financial planning unit endorsed the issuance of variable-rate bonds. This was the case for two reasons. First, variable-rate bonds tend to reduce interest payments on average. Second, variable-rate interest payments (outflows) are highly correlated with the state's revenue inflows, both treasury receipts and tax revenues. The debate over this debt issue had the by-product of familiarising budget personnel with the logic of hedging asset and liability positions and encouraged them to think explicitly about all-inclusive cash flows and to look at them in present-value terms, perspectives with which they were familiar but had seldom practiced. The proceeds from the issuance were invested in the stock market, which suffered large losses between 2007 and 2009, but has subsequently recovered.

Later, under Gov Kulongoski's 2009 reset initiative, top-end personal and most business income taxes were increased and, as noted earlier, the state's medium-term fiscal horizon extended to ten years. The final element of the reset initiative was an increase in transportation taxes and fees. The legislature increased the state's motor-fuel tax rate 20% per unit (by volume) in 2009. However, the legislation enacting the rate hike also guaranteed that rates would be held constant through 2014. As Oregonians are driving less, in ever more fuel-efficient vehicles, this has left the state highway-trust fund and local transportation in some jeopardy.³

Nesbitt's comments about the implications of the 2002 recession were addressed to the members of the Joint Legislative Task Force on Comprehensive Revenue Restructuring (OR House Bill 2530, June 30, 2007). The task force was Chaired by Lane Shetterly, a former Republican state legislator and head of House Revenue Committee, and instructed by the legislature to thoroughly examine "Oregon's tax structure from top to bottom" and assess several options for change – replacing personal income and/or property taxes with a sales tax or a gross receipts tax, imposing a tax on business assets and/or a value-added tax in place of the business income tax, creating an adequate "rainy-day fund"– and to recommend comprehensive statutory changes that would put Oregon's state and local finances on sound fiscal footing and stabilise the ups and downs of the state's economy.

The task force was broadly representative of the state's great and good, made up as it was of former and sitting legislators from both parties, retired business and government executives, tax lawyers, and think-tank analysts. When the task force initially convened, most of its members presumed that they would end up recommending the adoption of a broad-based consumption tax of some sort to replace a proportion of the state income tax. All of its members were aware that Oregon was one of handful of states without a comprehensive sales tax and generally shared the belief, which is widespread among Oregon's political class, that the lack of a state sales tax is a fatal fiscal flaw. They were also amply cognisant of the fact that Oregon's voters had rejected the adoption of a sales tax in statewide referenda nine times over the past 80 years.

Nevertheless, it quickly became apparent to the task force that, even if they set aside questions of political feasibility, most of the tax options they had been charged with assessing had serious drawbacks, sales taxes included, and that none would fix the state's revenue volatility problem. Property-tax growth was already fairly stable and, with minor adjustments, could be made even more so. The state's progressive-income tax remained a source of revenue volatility, but very few members of the task force, after a thorough re-examination of the alternatives, were willing to sacrifice its progressivity and growth potential for what appeared to be at best marginal improvements in stability. As Tony Van Vliet, task force member, Republican member of the Oregon House of Representatives from 1975 to 1995, and long-time sales-tax champion, observed "these alternatives involve making the revenue system less fair and less capable of providing sufficient support for essential public systems and services – outcomes that are both far worse than any that are likely to result from budgeting for the ups and downs of economic cycles". Moreover, none of the task force members were enthusiastic about investing in the administrative apparatus needed to install a new tax type, let alone exposing Oregon's taxpayers to increased federal tax liabilities.⁴

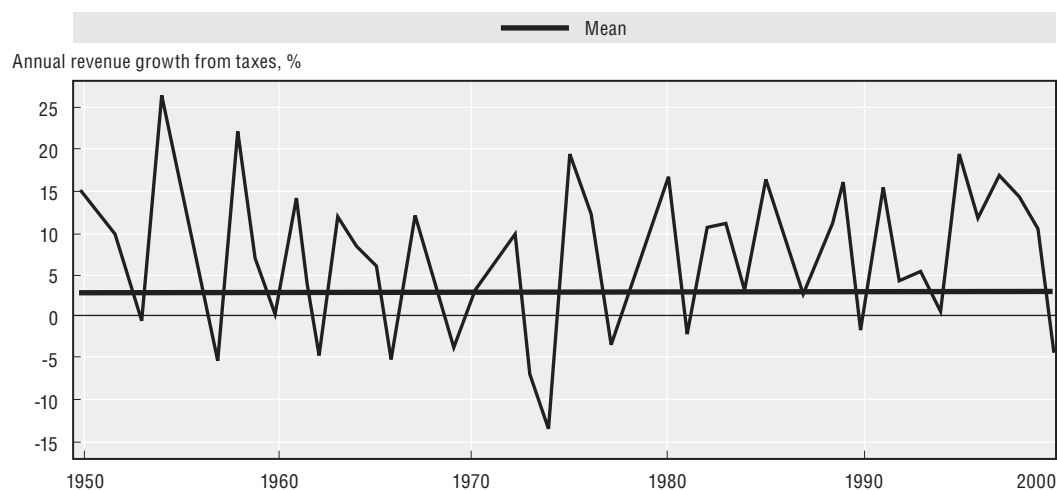
Ultimately, the task force concluded that the Governor's medium-term financial planning unit had it about right: what needs fixing is not unstable revenue growth but unstable spending. Most of its members were also persuaded the state's existing revenue structure was adequate to meet future state and local needs, that there had to be a way to smooth out spending over time, and that a fix was to be found in putting revenue windfalls aside for a rainy day and making up for unexpected shortfalls with savings (or borrowing). At that point two questions surfaced: how much money should the state put aside and could Oregon put enough in reserve to make it through a serious downturn unscathed? Which is where I came in.

3. Participating in and reflecting on the process

At the behest of Oregon's Department of Administrative Services, my colleagues and I had been doing background research on these issues (Gates et al., 2005; Thompson and Gates, 2007). We started with two questions: How big does a rainy-day fund need to be to keep from running out of money (Wagner and Elder, 2004); what rules should govern contributions and withdrawals from the fund? We were ultimately defeated by the first question and, because answering something like the first question is requisite to answering the second as well. We concluded that a rainy-day fund, which would be completely safe, as defined by The Task Force, would be very large and almost certainly unaffordable: "any state that could afford a rainy-day fund probably didn't need one; any state that needed a rainy-day fund probably couldn't afford one" (Gates et al., 2005). This conclusion turned out to be incomplete, if not entirely wrong, in part because we had misspecified the problem that needed to be solved. It took a while for us to figure out why and how.⁵

We also looked at the effects of revenue restructuring, primarily focusing on substituting various consumption tax designs for some or all of Oregon's personal income tax, on revenue volatility. Figure 2 illustrates the situation with which we were working. It shows Oregon's annual growth in personal income tax revenues, 1950-51 to 2000-01. In this period, nominal increases averaged about 10% per year, with inflation accounting for more than half of the increase. The mean real rate growth was approximately 3.5%. The most salient fact about income tax revenue during this period is its volatility: nominal increases were equal to or greater than ten per cent during 32 of the 50 years; growth was negative during eleven.

Figure 2. **Oregon's personal income tax growth**



Source: Author.

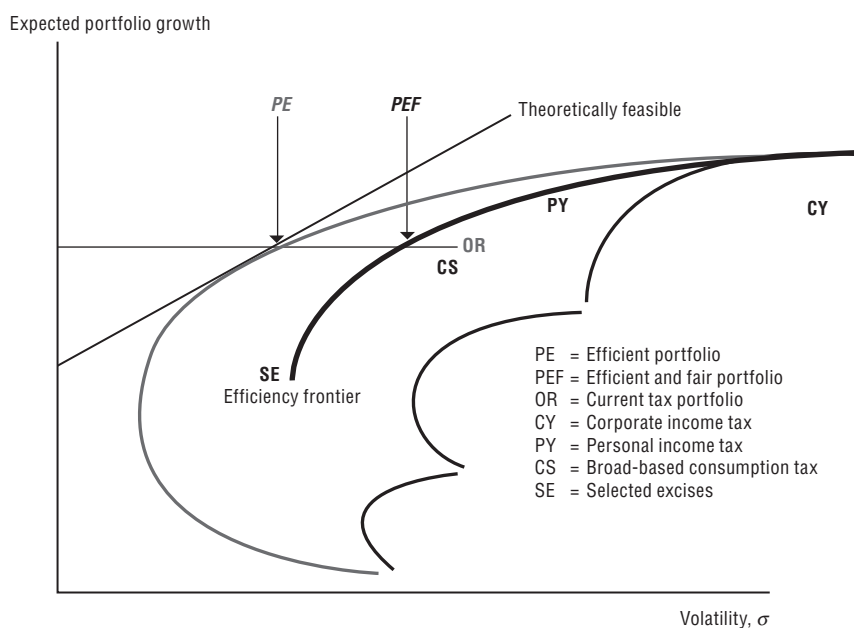
Of course, reliance on multiple tax types will reduce revenue volatility only to the extent that their cash flows do not co-vary.

For example, Washington State's tax system is the mirror image of Oregon's: it has no income tax, but instead relies almost entirely upon sales and transaction taxes. Consequently, if Oregon's annual revenue growth (in per cent) is regressed on Washington's, one obtains

an R^2 of about .65 (i.e., they are imperfectly covariant) and a regression coefficient greater than 1.3. This tells us two things: Oregon's revenue flows are more volatile than Washington's (the coefficient is greater than 1) and that, if the two states pooled their revenue, total volatility would be reduced by about a third, with the volatility of Oregon's share reduced by half (Washington's economy is approximately twice the size of Oregon's). The interesting question is "why?" The underlying tax bases, personal income and consumption, are themselves highly covariant, so why aren't the consequent revenue flows equally covariant? The basic answer is simple, Oregon's income tax design is relatively progressive; Washington's sales tax is quite regressive (overall, by most reckonings, Washington has the nation's most regressive state and local tax system, while Oregon's is among the most progressive). Generally speaking, revenue volatility varies directly with the long-term income elasticity of the tax system, which is simply another way of saying "its progressivity".⁶

Figure 3 shows the results of an analysis of the mean real growth rates and variances associated with alternative tax portfolios based on 1950-2001 Washington/Oregon revenue data. This analysis (see Thompson and Gates, 2007) was designed to assess the inferences drawn by Oregon's fiscal planners based primarily on their understanding of Holcombe and Sobel (1997) and was made available to the Legislative Task Force on Revenue Restructuring.

Figure 3. **Efficient tax portfolios**



Source: Author.

In Figure 3, mean growth in tax revenues is shown on the vertical axis and revenue volatility on the horizontal axis; OR locates Oregon's actual tax revenue in this space, PY personal income tax revenue,⁷ CY business tax revenue, and SE all other state tax revenues; CS does the same thing for Washington's actual sales tax revenue. The curved line tangent to the capital-market line (labelled "Theoretically feasible") shows combinations of Oregon's actual tax revenue and Washington's revenue from sales taxes; the point labeled PE reflects weights of 1/3 personal income tax and 2/3 sales taxes. The curved line to its

right shows combinations of Oregon's actual tax revenue with Washington's sales-tax revenue adjusted (using per-capita rebates) to be as progressive as Oregon's personal income tax system; the point labeled PEF reflects sales and income tax weights of approximately 1/2 and 1/2. The implication of this analysis is that the adoption of a sales tax that was as progressive as Oregon's personal income tax would have a trivial effect on volatility; adopting one like Washington's could reduce revenue volatility by nearly half, but would also reduce Oregon's state and local progressivity rank from the top 10% in the nation to the bottom third.

Performing this analysis also helped us to see that the question – how big must a rainy-day fund be to avoid cuts when the economy goes bust? – which my colleagues and I had asked earlier (Gates et al., 2005), was the wrong question. Instead, we realised that spending volatility cannot be fixed if it is grown at an unsustainable rate during booms. Consequently, the right question is: *How fast can we safely grow spending, given existing revenue structures and savings?* This formulation presupposes two things:

- State governments face a hard budget constraint. As Willam Buiter explains (1990: 62-67), this means that the present value of a jurisdiction's planned expenditures (spending target) must be equal to or less than the sum of its net assets (assets – debts), plus the present value of its expected net revenues (taxes – transfers).
- Spending targets should be designed to avoid/minimise cuts due to cash shortfalls, which has at least two possible interpretations: targets should be set to maximise the rate of spending growth, given current-state variable values, including mean revenue growth and its variance (as in Kriz, 2002), and an endogenous liquidity constraint, or targets should be set so as to minimise the likelihood of a spending cut from the level of the preceding period, again given current-state variable values.

Once Bruce Gates and I thought we had identified the right question, we tried to answer it using brute force: Monte-Carlo simulation and probability distributions (triangular, in this case, rather than normal) that were pessimistic enough to protect against horribly wrong inferences (Thompson and Gates, 2007).

Prior to performing this analysis, we were sure that the first interpretation implied somewhat lower spending targets than the second. In point of fact, it appears that that is the case only where the acceptable probability of a spending cut is more than 12-13%, which seems altogether unsatisfactory. Even if state spending were perfectly myopic, which it has never been, Oregon would experience nominal shortfalls only about 20% and real shortfalls about 25% of the time. Given that fact, an acceptable probability of a budget shortfall ought to be no more than 4% or 5%, which appears to imply markedly lower spending targets under the second interpretation. Moreover, because net assets, together with the mean and variance of revenue growth, are recalculated each iteration of the simulation, the resulting spending increases are both more likely and considerably smoother under the second interpretation than the first.

When I presented this problem and our brute-force solutions to my academic colleagues, Michael Dothan immediately saw that it was a robust optimal-control problem,⁸ where our first formulation corresponded to a traditional Merton-style model (Merton, 1971), in which spending rates are proportional to net assets *plus* the present value of expected net revenues and revenue and savings growth are continuous-time, continuous-state stochastic processes, and the second to a version of that model, modified to reflect significantly higher relative risk aversion for budget shortfalls (defined as spending below the highest

previously realized level) than for windfalls (spending above the highest previously realized level). Moreover, he proceeded to develop discrete, closed-form mathematical solutions for both a straightforward extrapolation from the Merton model to government spending (Dothan and Thompson, 2009a) and then for a more general version of that extrapolation permitting asymmetric relative risk aversion (Dothan and Thompson, 2009b). Both versions identify sustainable rates of spending growth and, implicitly, minimum net-contributions to savings, given current-state variable values – current cumulative savings, average revenue growth, revenue volatility, average return on investments, and volatility of investment returns. But, under the second, which accommodates asymmetric risk aversion, spending volatility decreases monotonically when relative risk aversion is increased.

These optimal-control theoretic, closed-form mathematical formulations aren't, in fact, particularly relevant to everyday budget making,⁹ but they do have two practical uses: they provide a standard for assessing the algorithms that budget analysts use to try to make spending sustainable and a counterfactual for evaluating past spending (i.e. we can say what governments should do to stabilise spending growth in the face of revenue volatility, which allows us to ask “is this what they do and, perhaps, if not, why not?”).

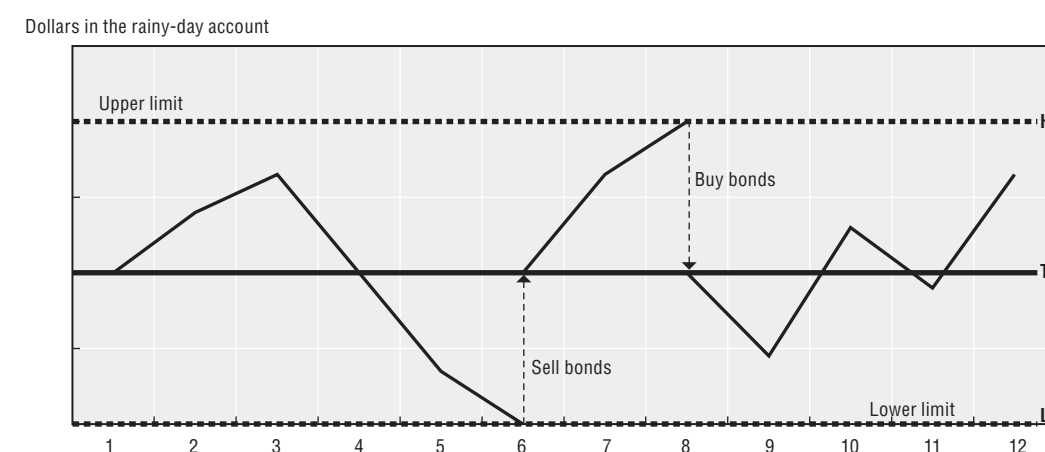
Using our closed-form mathematical solution as a normative standard, it is fairly easy to show that any spending algorithm that attends primarily to the revenue-growth trend outperforms forecasts that track revenue growth from one year to the next. As Aaron Wildavsky (1975) observed, budgeters can put spending on a sustainable path simply by basing the permissible rate of expenditure growth on the long-run rate of revenue growth. If cash outflows nevertheless outstrip cash inflows, they can knock a percentage or two off the planned rate of expenditure growth until spending is back on a sustainable path. Indeed, using the geometric mean of the growth rate (as opposed to the arithmetic mean) in carrying out this simple fiscal rule rather closely approximates our mathematical solution.

Moreover, the so-called the gold standard in budget forecasting, exponential smoothing, where revenue growth determines spending growth (Downs and Rocke, 1983, 1984), even more closely replicates our closed-form mathematical solution.¹⁰ This is the case because exponential smoothing does algorithmically what our formulation does mathematically. In both cases, the data-generating process is a latent random-walk signal buried in white-noise measurement error (e.g. regime switching, with the time of the switch is unknown). Exponential smoothing is a mean-squared-error-optimal filter, where the smoothing parameter depends only on the random-walk error variance relative to the measurement error variance, the signal to noise ratio is time varying and so too is the optimal smoothing parameter.

Since it appears that budget makers can render spending sustainable with the tools available to them, is that what they do? Clearly, prior to 2003-04, that's not Oregon's budget makers did. Looking at a far larger population of jurisdictions (all US municipalities from 1986-2008), however, it appears that spending and savings behaviour were more or less consistent with the prescriptions of the closed-form models (Thompson et al., 2014). Nevertheless, spending was more volatile than it should have been. On average, municipalities increased spending (including tax cuts) too much during booms and cut spending (including tax increases) too much during busts. They also increased spending prematurely in response to tax increases and they did not reduce it sufficiently in response to tax cuts). In other words, spending behaviour tended to be excessively myopic.

My academic colleagues and I made one final contribution to the task force: a set of operating rules for rainy-day funds designed to keep state spending out of trouble (avoid illiquidity, assuming a predetermined spending target). We proposed a rainy-day fund with a target cash balance (T), an upper bound to cash balances (H), and a lower bound (L) as shown in Figure 4. When cash balances exceeded the upper bound, the rules governing its operation should require fund managers to retire enough long-term debt to return the fund to the target level (T); if balances dip under the lower bound, fund managers should be required to borrow long-term to bring the balance back up to the target. The logic underlying this structure is entirely straightforward. The rainy-day fund must hold enough cash to cover shortfalls when they occur, but excessive balances are both wasteful and, perhaps, unnecessarily tempting to public officials.

Figure 4. **How a rainy-day fund should work**



Source: Author.

Basically, this is an inventory model; setting the fund-balance target (T) and the upper (H) and lower (L) bounds should be a straightforward function of the volatility of cash flows, the mean square root of the spending target, transaction-costs, and interest rates.

4. Epilogue

Oregon's revenue task force ultimately concluded that the Governor's fiscal planning unit had it about right: Fixing the boom and bust budget cycle means balancing the budget against a forecast based upon long-term rate of revenue growth and putting a workable rainy-day fund in place. Consequently, they proposed that each biennium, economists in the Department of Administrative Services should re-estimate Oregon's long-term rate of revenue growth and the executive and legislative branches should use that figure as the basis for budgeting. If revenues come in above the long-term trend, they should be kicked into a rainy-day fund, which should be used only to make up revenue shortfalls or pay down the state's debt. As noted earlier, the Governor's Cabinet more or less adopted this process in 2005, and despite the Legislature's failure to enact it into law as proposed by the task force, used it internally through 2013. So far, results have been pretty good, although the Governor Kulongoski's Cabinet and the task force would have preferred it had the proposal been written into law.¹¹

That preference reflects two considerations. First, it would have meant that the long-term revenue growth trend would be used as the state's *official* revenue estimate. That is not now the case. Rather, Oregon's so-called "kicker" law requires the state to return tax payments in excess of *official* revenue estimates to taxpayers, rather than diverting the excess to a rainy day fund. Currently, the only way to ensure that excess revenues go to the rainy day fund is to highball the official estimate.¹² Second, high official revenue estimates make it hard for stakeholders to stick to long-term spending targets. That has been increasingly the case under the current administration, which has dismantled the medium-term fiscal planning unit, and a legislature that was not part of the consensus created by the revenue task force. Governance arrangements characterised by high levels of personnel turnover need stabilising mechanisms to keep them oriented. Organisational routines and standard operating procedures help them stay on course, but the inertial weight of routines and procedures weakens when stakeholders aren't privy to their original justification. Laws are not so easily diminished.

Why wasn't the task force's proposal written into law? At the start of the emergency session of the legislature in February 2010, Governor Kulongoski announced that he would keep Oregon's lawmakers in Salem until they acted upon the proposal (OR Senate Joint Resolution 45, 8 Feb. 2010), which would:

Amend the Constitution to establish a mandatory savings plan for state government, as recommended by the 2007-08 Task Force on Revenue Restructuring. This involves directing a portion of excess revenue "kickers" in future years to an Emergency Reserve Fund, whose uses shall be limited to times of fiscal emergencies. The purpose of this proposal is to stabilise the state budget and avoid crisis-driven cuts to services and revenue-raising measures in times of severe recessions.¹³

Two days later (February 10), Peter Courtney, President of the Oregon Senate, marched into the Governor's office and announced that he wouldn't bring the proposal to floor vote even if the legislature were "kept in Salem until Hell freezes over". He adamantly refused to fight the upcoming legislative election with JCR 45 on the ballot. He also assured Governor Kulongoski that the legislature would take up the matter in the next legislative session. The following day, the Governor publicly recanted his threat. Perhaps owing to the Democrat's loss of control of the legislature or the election of a new Governor, who had nothing invested in this proposal, it didn't come up during the 2011 session or subsequently.

Interestingly, California, Oregon's neighbor to the South, recently voted Proposition 2 into law. Proposition 2 amends the California Constitution to require that the Governor make mid-term spending and revenue targets part of the state budget process, requires the state to set aside revenues each year – for 15 years – to pay down specified state liabilities, and substantially revises the rules governing the state's rainy day fund. In other words, California's legislature did pretty much what Oregon's refused to do. They referred a measure aimed at making state and local spending sustainable to the citizenry. On 4 November 2014, 70% voted in its favour. We'll see how it works out.

Notes

1. Oregon has an advantage with respect to expenditure smoothing relative to many states. The budget enacted into law must be balanced (in the sense that it may not exceed the revenue forecast), but if a cash shortfall subsequently occurs, the state may legally borrow to make up the difference.

2. To which we added from Holcombe and Sobel that these relations depend greatly upon the designs of the taxes in question (Holcombe and Sobel, 1997), primarily their progressivity (see Thompson, Beatty, and Thompson, 2013a).
3. Oregon relies less than other US states on municipal and county level gas taxes to support city streets and county roads. Instead, Oregon relies almost exclusively on state fuel taxes and registration fees to meet their needs (30% of state collections goes to counties and 20% to municipalities).
4. Taxpayers may deduct state and local income tax or sales tax payments from AGI on their national personal income tax returns, but not both.
5. Our initial formulation of the problem and its solution was taken from Kenneth Kriz (2002), who noted that the level of savings needed to insure against revenue shortfalls depends upon average revenue growth, revenue volatility, average return on investments, volatility of investment returns, and the desired rate of spending growth. To compute this value, Kriz assumed that revenues and investment returns could be modeled by a Markov process called geometric Brownian motion, which is a type of stochastic process in which the distribution of future values of a financial variable, conditional on current and past values, is identical to the distribution of future values, conditional on the current value alone, growth increments are independent of one another, and the variance of the change in the process grows linearly with its time horizon. This process is also called a random walk. Kriz used a Monte Carlo simulation to replicate this process and, thereby, to find the level of savings needed to sustain a given rate of expenditure growth. He found that if the typical jurisdiction wished "to sustain a 3% expenditure growth rate with a 75% confidence level, it would need savings equal to 91% of total [annual] revenues" (Kriz, 2002: 5). Note that this formulation implies a growth rate of 3% in year $t+1$ regardless of the increase in year t , i.e., it is designed to insure against revenue shortfalls, taking windfalls as given. Following Kriz, we focused exclusively on the state's general fund and tried minimum growth rates of 3, 2, 1, and 0 per cent; even the last, would have required Oregon to earmark 15-20% of its budget for the rainy-day fund each year, nevertheless produced occasional spending shortfalls, and reduced year on year spending volatility by little more than half.
6. Over the past 20 years, state and local tax systems have become more volatile. This is the case for two reasons: the underlying economy has apparently become more volatile and states are relying increasingly upon income taxes, i.e., have made their tax systems less regressive (Seegert, 2012).
7. Implicitly we have treated statutory rate changes as endogenous to the tax structure. In point of fact, Oregon's personal income tax rates remained stable during the 1950-2001 period, with only minor changes (i.e. indexing for inflation in 1989 and increased limits to various deductions and inclusions). In contrast, the business tax was dramatically modified after 2002 and rates increased substantially in 2010. In Washington, sales tax rates underwent frequent upward revisions during the same period; otherwise its growth rate would have been substantially lower, although owing to the timing of increases (generally pro-cyclical), perhaps, not its volatility.
8. Robust optimal control is an abstract, mathematical approach for dealing with risky choices, developed by engineers, applied to finance, and aimed at producing a pretty good result, even when things go bad, as they all too often do.
9. At least, not at the state level. Jeffrey Frankel (2011) reports that things are otherwise in Chile.
10. This is the approach taken by the medium-term planning unit in proposing spending targets for the reset cabinet.
11. While this point is somewhat tangential to the main argument made here, I am impressed by the similarities between this process and the governance arrangements described by Tang, Callahan, and Pisano (2014). They show how open communications and an appropriate time horizon shape collective action dynamics and build the trust and reciprocity among stakeholders needed to encourage them to look beyond immediate self-interests and to make decisions promoting long-term fiscal sustainability. This is a matter that clearly deserves greater attention.
12. The State's Office of Economic Analysis denies that it has high-balled its revenue forecasts, arguing that they have merely gotten better at it, although they acknowledge that they may be less inclined to underestimate revenues than was once the case (personal correspondence, see also Choate and Thompson, 1990).
13. The Governor's deputy chief of staff had arranged for the Portland Oregonian to publish editorials written by Shetterly and Van Vliet supporting this measure in its Sunday Opinion section on February 7th and by me on the 14th. For obvious reasons, mine never ran. Frankly, I thought the measure as written was excessively clunky, with lot of unnecessary and arbitrary cut points. Both saving and stabilising could have easily been made seamless, but not evidently by Oregon's legislative draftsmen. Nevertheless, JCR 45 seemed both workable and practicable.

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Performance budgeting in Korea: Overview and assessment

by
Nowook Park and Joung-Jin Jang*

This paper tries to shed light on the Korean performance budgeting (PB) system by analysing its strength and limitations by utilising the framework of the OECD 2011 PB survey. It provides an overview of the Korean PB system and describes the Korean system based on the OECD survey results. Lastly, current issues of the Korean PB system are discussed including its future directions.

JEL classification: H61, H80

Keywords: Performance budgeting, performance information, budgeting, Korea

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1. Introduction

Ten years have passed since the adoption of performance budgeting reform in Korea. Korean performance budgeting reform was introduced as a component of four major public financial management (PFM) reform measures in the mid-2000s. The Korean Performance Budgeting (PB) System has been known for its integration into the budget process and the continuous efforts to improve its implementation. The recent OECD survey on performance budgeting practice suggests that Korea is one of the top-tier countries in which essential elements of PB have been adopted and operated. Despite such favourable reviews from abroad, new initiatives are still being discussed in Korea to improve its effectiveness and sustainability.

This paper tries to shed light on the Korean PB system by analysing its strength and limitations by utilising the framework of the OECD PB survey. The first section provides an overview of the Korean PB system and the second section describes the Korean system based on the OECD survey results. Lastly, current issues of the Korean PB system were discussed including its future directions.

2. The current performance budgeting system in Korea: Overview¹

The Korean PB system consists of three different layers: monitoring, review, and in-depth evaluation. The monitoring system, called the Performance Goal Management System, gives the first feedback on the performance of budgetary programmes, drawing attention to programme that may not be meeting their goals. The strategic review system, or Self-Assessment of Budgetary Programme, collects comprehensive information on the performance of budgetary programme and prioritises the programme for budgeting based on their ratings. The monitoring system applies to every programme, and the strategic review system applies to one-third of the programme, every year. By contrast, the In-depth Evaluation of Budgetary Programme system selects a small number of cross-cutting programmes and subjects them to in-depth evaluation.²

2.1. Monitoring: Performance goal management system

The monitoring system requires that line ministries submit annual performance plans and reports, which became mandatory with the enactment of the National Finance Act in 2007. Line ministries submit these reports to the Ministry of Strategy and Finance (formerly the Ministry of Planning and Budget), which, in turn, submits annual performance reports to the National Audit Office. Finally, annual performance plans and reports are passed on to the National Assembly. The annual performance plan includes a hierarchical structure of the budgetary programme in each line ministry: their mission, strategic goals, programme goals, and sub-programme goals. The mission corresponds to the highest goal of each line ministry; strategic goals match the office-level goals; programme goals link to bureau-level goals; and sub-programmes goals correspond to team-level goals. Performance indicators and targets are assigned to each programme and sub-programme

goal. The annual performance plan also contains strategies to achieve the stated goals and an outline of outside factors that are expected to affect the goals.

The monitoring system is designed to be the starting point for performance management of budgetary programme. First, it helps to identify redundancies and deficiencies in existing programme portfolios. By analysing and developing a hierarchical programme structure, officials can examine whether a particular programme is properly designed to serve a policy goal, or conversely, whether a particular policy goal is served by a proper programme portfolio. Second, the monitoring system provides a comprehensive list of performance indicators in relation to policy goals. The system works like a traffic signal, warning when the performance of budgetary programme may be falling short. Although it may not be able to provide sufficient performance information for decision-making purposes, the system serves as a platform to initiate discussion about the effectiveness of budgetary programme.

The engagement of top administrators is the key in utilising this performance information. The basic overview generated by the monitoring system is made broadly available – to top decision makers and middle managers in the organisation, to politicians in the legislature, to outside experts, and to civil service organisations. However, because further communication and information, in addition to the monitoring reports, are needed in order to make effective decisions, the monitoring system is best suited to internal management. Top decision makers within each organisation can use the monitoring system to effectively initiate internal communications and to guide their management decisions. So far, the annual performance plan and report from the monitoring system have been developed for informational purposes and have not been used in a systematic way.

2.2. Reviewing: Self-assessment of Budgetary Programme

Of the three PB oversight layers, the review process is the most actively and systematically used for decision-making purposes. As mentioned, information from the monitoring system does not provide enough information to guide the central budget authority in decision making. At the same time, since in-depth evaluation covers only about eight cross-cutting programmes each year, its systematic impact on budget allocation is limited. The Self-Assessment of Budgetary Programme is a review process implemented through a checklist developed by the central budget authority. The checklist contains questions on programme planning, management, and results, and each question requires evidence. The review process usually takes about four months to complete, and a third of government programme are evaluated every year. After the central budget authority issues review guidance, line ministries complete the checklist for their programme and submit them to the central budget authority with supporting evidence. The central budget authority then reviews the submissions and assigns each programme a rating: effective, moderately effective, adequate, ineffective, or very ineffective.³

The central budget authority has stipulated in the budget draft guideline for line ministries that at least a 10% budget cut should be considered for “ineffective” programme. The review results are open to the public and available in the website of the central budget authority.

2.3. Programme evaluation: In-depth evaluation of Budgetary Programme

The programme evaluation process seeks to measure the relevance, efficiency, and effectiveness of a programme. Although ad hoc evaluation activities had previously existed in the central budget office to cope with major policy questions, there was no systematic

or rigorous evaluation system prior to PB. Thus, the In-depth Evaluation of Budgetary Programme institutionalized the in-depth evaluation process into the PB system. Every year, an evaluation panel is created for each of the group of cross-cutting programme selected for evaluation. Panel members, selected for their expertise, mostly come from public research institutes and universities. With the support of the Ministry of Strategy and Finance and line ministries, the evaluation panel collects data, conducts surveys, analyses the data, and writes a report. Since many stakeholders are involved in any given programme, the evaluation panel holds frequent meetings to collect feedback. The panel submits their completed evaluation reports to the central budget office, who decides whether to reflect these results in resource allocation changes or programme consolidation.

2.4. PB system features

The PB system in Korea has several context-specific features. First, its focus on linking performance information and budget allocation is mainly driven by the fact that the budget authority is confined to budgeting functions, while the prime minister's office and other ministries perform general policy and personnel management. Given the narrow scope of its mission, the budget authority tries hard to use performance information in actual budget allocation. Otherwise, it cannot find a rationale for running a performance management system. For example, the budget authority issued the guideline that a budget cut of at least 10% would be imposed on the programme rated as "ineffective" by the Self-Assessment of Budgetary Programme review. Second, like other PFM reform measures in Korea, PB is implemented mainly by the budget authority within the executive branch, without much consultation with the legislature. However, the voice from the legislature has become stronger as time has passed, and the nature of PB has evolved accordingly. Third, Korean PB focuses on producing useful information for decision-making. In practice, that means applying the review process at the sub-programme level. Since external factors are more active on the programme level, and also because whole programme are too big for prioritisation based on performance information, the Korean central budget authority conducts PB on the sub-programme level.

3. The current performance budgeting system in Korea: Comparison with the OECD countries⁴

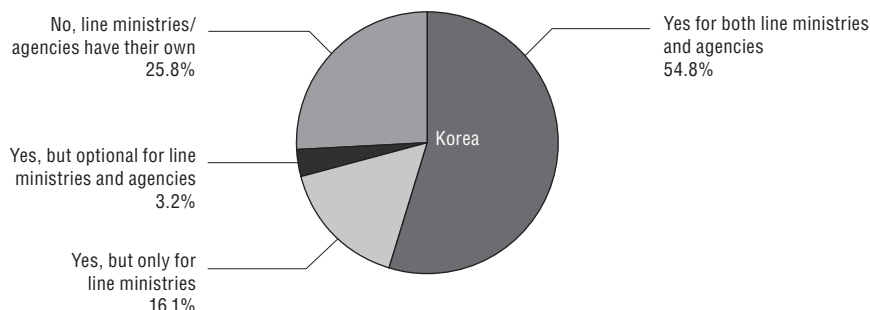
3.1.1. Standard performance budgeting framework

Korea's CBA (Central Budget Authority – a Fiscal Management Bureau in the MoSF) develops a standard performance budget framework and apply it to all central government line ministries and agencies like most of the OECD countries (Figure 1).

3.1.2. Key elements of the standard performance budgeting framework

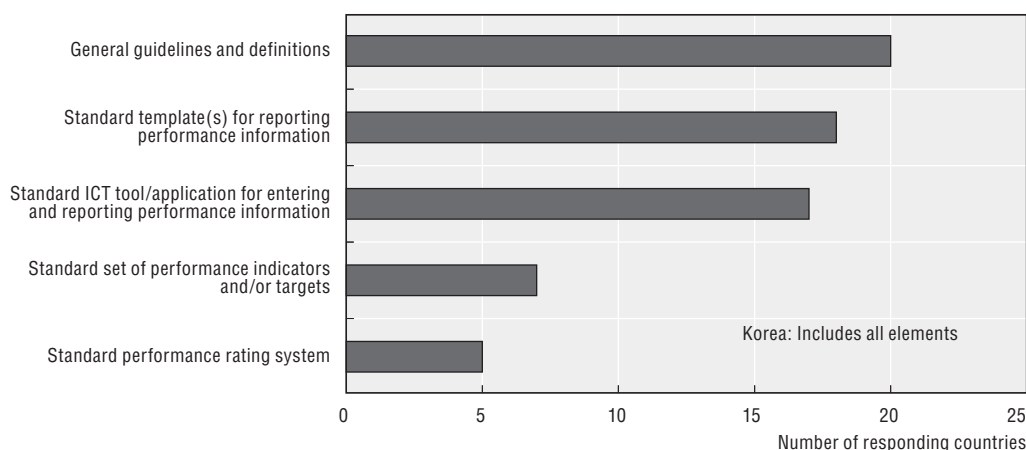
Korea's performance budgeting frameworks includes all elements asked in the survey while only a few OECD countries include standard set of performance indicators and/or targets (7 countries) and standard performance rating system (5 countries) (Figure 2). The CBA issues general guidelines and standard templates for reporting to line ministries. The CBA and line ministries report their performance information through the integrated financial management information system, a.k.a. Digital Budgeting and Accounting System. Performance indicators and targets of individual programme and sub-programme are included in the line ministries' annual performance plan and report. The periodic programme review system produces each programme's rating.

Figure 1. **Does the CBA have in place a standard performance budgeting framework which is applied uniformly across central government organisations?**



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Figure 2. **Key elements of standard performance budgeting frameworks**

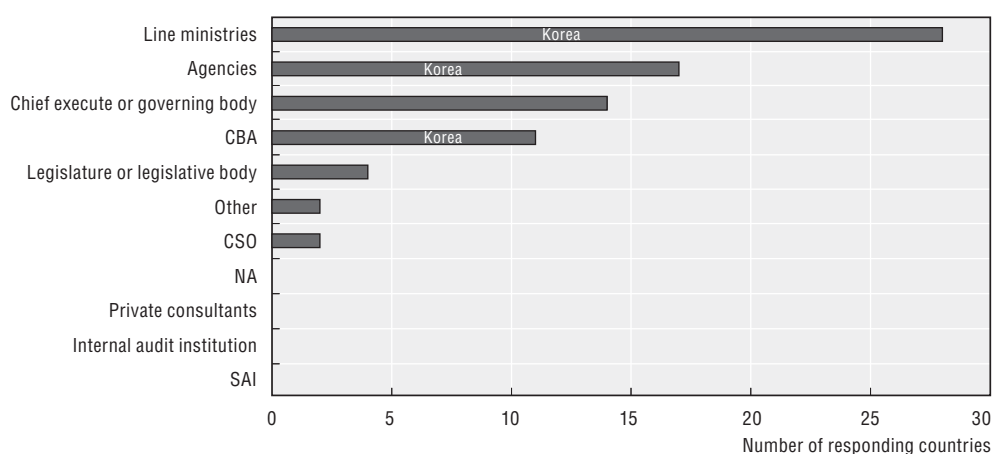


Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

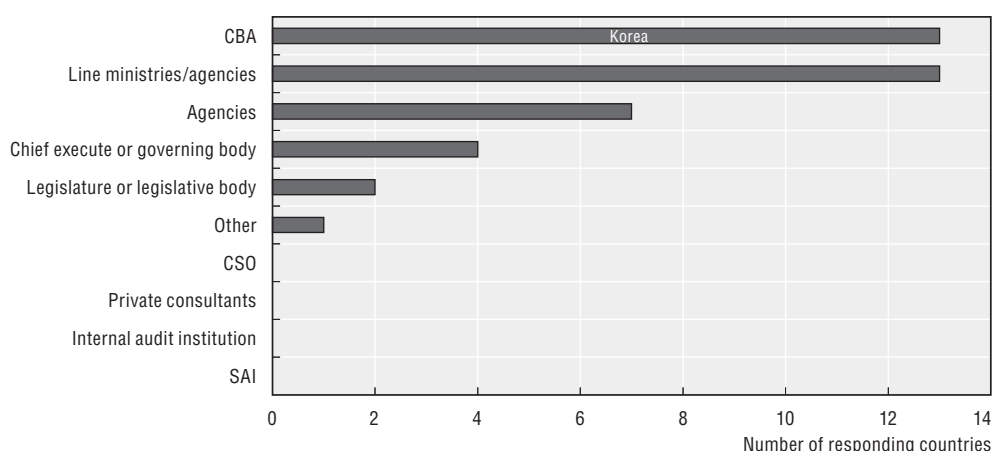
3.2.1. Institutions generating and using performance information

The performance budgeting workflow in Korea starts with the central budget authority (CBA) establishing the framework/guidelines. The CBA develops and maintains the ICT system. The tasks of setting performance targets, generating performance information and conducting evaluations are carried out by the CBA, line ministries and agencies (Figure A3). Line ministries bear the responsibility of producing performance information, and the CBA sets the standard and plays a role of gatekeeper to ensure its quality. In addition to line ministries, the Supreme Audit Office and the National Assembly Budget Office examines the validity and quality of performance information. The allocation and/or reallocation of funds based on performance information are done by the CBA in co-operation with the line ministries.

Like the most of the OECD countries, Korea allocates and reallocates the funds on the basis of performance information under the responsibility of the central budget authority in co-operation with the respective ministry (Figure A4). The annual budget preparation guidelines issued by the CBA contains a clause stating that the periodic programme review results should be reflected in line ministries' budget request. Line ministries usually comply with it and the CBA uses performance information in developing administration's

Figure 3. **Who is responsible for setting performance targets**

Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Figure 4. **Who is responsible for the allocation and reallocation of funds based on PI?**

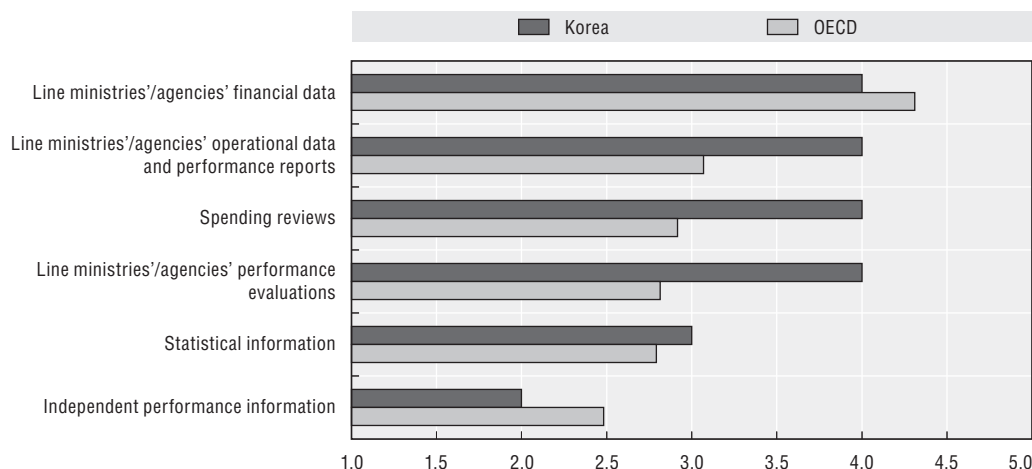
Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

budget draft. Sometimes the Supreme Audit Office and the National Assembly Budget Office question the CBA when programmes with poor ratings are assigned with budget increase.

3.2.2. Performance information used by the central budget authority and the line ministries

In most of the OECD countries including Korea, the CBA, line ministries and agencies usually use financial data in their budget negotiations (Figures 5 and 6). Contrastingly, CBA, line ministries and agencies in Korea use non-financial performance information, spending reviews and line ministries' performance evaluations more often than the average OECD countries. Statistical information is used occasionally for both Korea and OECD countries. In the Korean budget negotiation process, non-financial performance information is usually presented by the line ministries and agencies to justify their programme. However, the extent to which it is honoured by the CBA depends on the quality of the performance information and programme's priority in the administration.

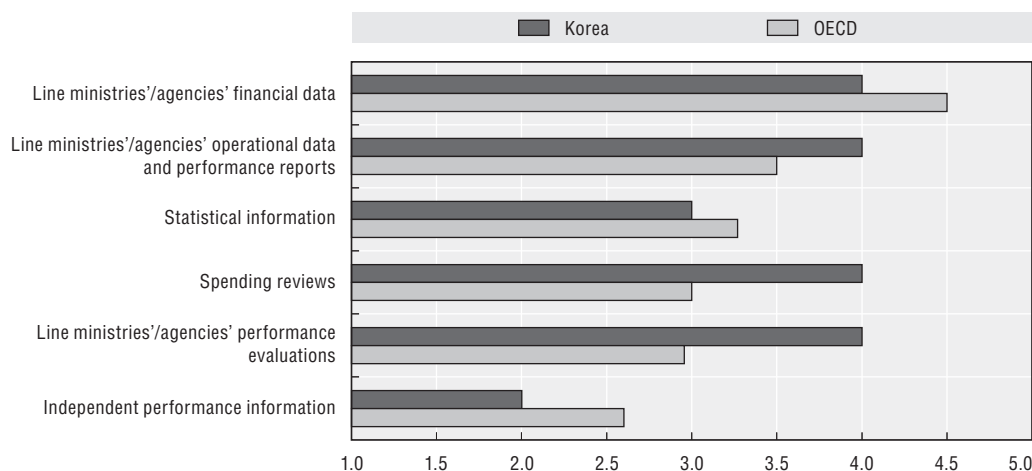
Figure 5. **How often do the CBA and line ministries utilise the following kinds of performance information in their budget negotiations?**



Note: 1: Never 2: Rarely 3: Occasionally 4: Usually 5: Always.

Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Figure 6. **How often do line ministries and agencies utilise the following kinds of performance information in their budget negotiations?**



Note: 1: Never 2: Rarely 3: Occasionally 4: Usually 5: Always.

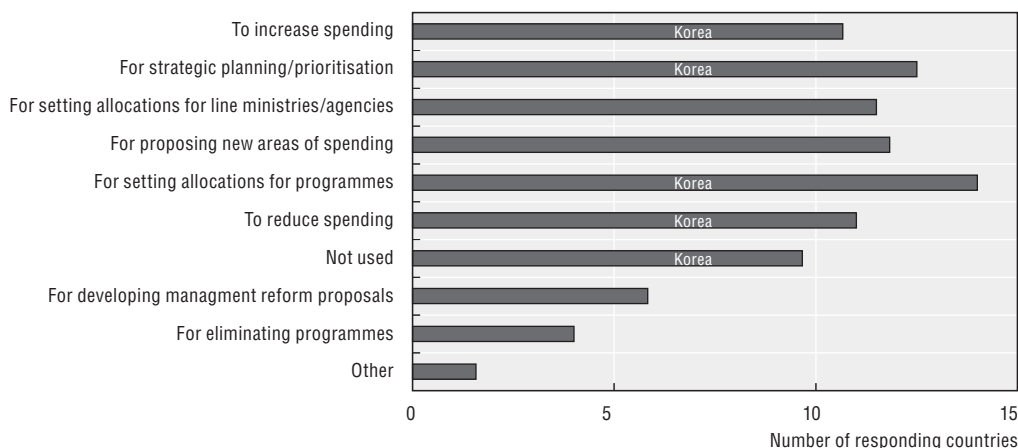
Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

In Korea, performance information is mainly used for setting budget allocations for programme, for strategic planning, for proposing new areas of spending, to increase spending and to reduce spending, which is also true of the other OECD countries. However, the performance information is seldom used for setting allocations for line ministries, for developing management reform proposals and for eliminating programme (Figure 7). Since the introduction of performance-based budgeting, performance information is widely used in public discourse in Korea. However, for the purpose of eliminating programme, evidence on programme's duplication and lack of demand are more widely used.

3.3.1. Benchmarks of performance targets

The survey examined the use of performance targets, a specific category of performance information by which a measurable performance objective is set *ex ante* for a

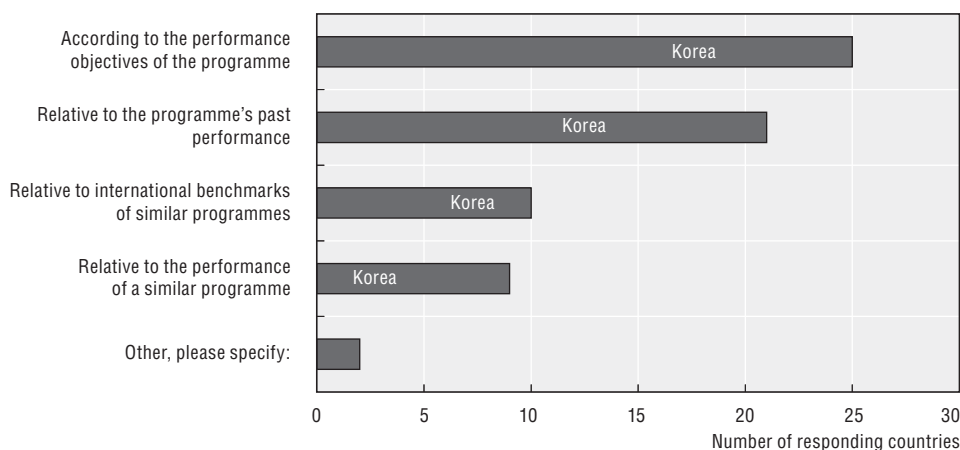
Figure 7. **How is performance information generally used by line ministries in their negotiations with CBAs?**



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

specified period of time. Korea sets these performance targets according to the performance objectives of the programme and relative to the programme's past performance like most of the OECD countries while it also employs international benchmarks of similar programme and the performance of a similar programme (Figure 8). In setting the performance targets, line ministries are required to explain the basis for setting programme's performance targets and provide many reasons, such as past performance, international benchmark, policy goals, expected challenges and so on.

Figure 8. **How are performance targets set?**

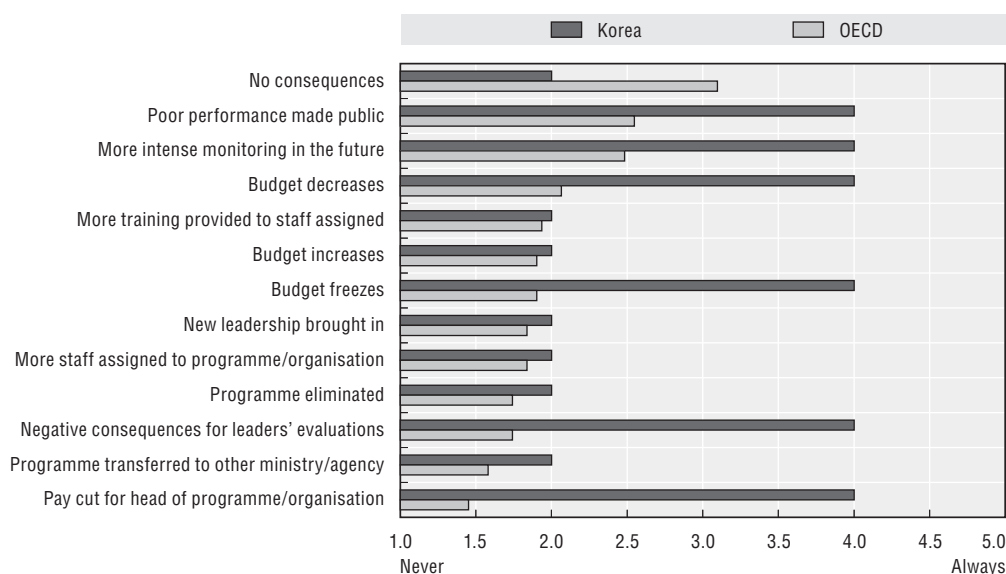


Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

3.3.2. Consequences when targets are not met

When performance targets are not met, often there are no consequences for the OECD countries (Figure 9). In contrast, Korea often employs valid measures like budget decrease or freeze, more intense monitoring in the future, negative consequences for leaders' evaluations, pay cut for head of programme/organisation when targets are not met (Figure 9). While the budgetary implications and more scrutiny are imposed by the CBA, the

Figure 9. What happens when performance targets are not met?



Note: 1: Never 2: Rarely 3: Occasionally 4: Usually 5: Always.

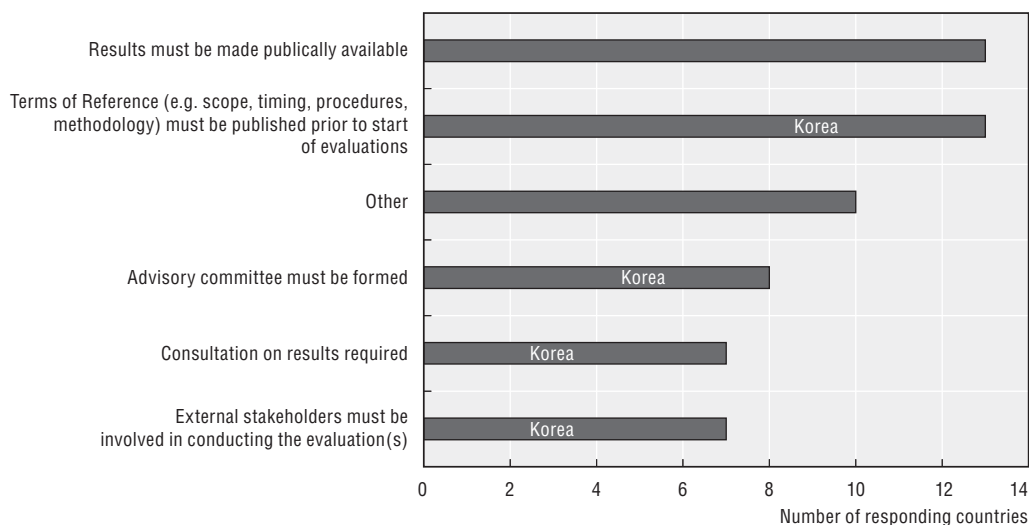
Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

negative consequences to the leader and head of programme/organisation are usually imposed by each line ministry and its significance varies across line ministries.

3.4.1. Elements required for government evaluations

Performance evaluations are retrospective analyses of a policy, programme or organisation in order to assess how successful or otherwise it has been, what challenges may exist for improving performance, and what lessons can be learned for the future (Figure 10). Concerning the elements that are included in regulations and/or formal policy guidelines governing performance evaluations, 13 out of 32 OECD countries answered that results must be made publicly available and that terms of reference must be published

Figure 10. What elements are required for government evaluations?



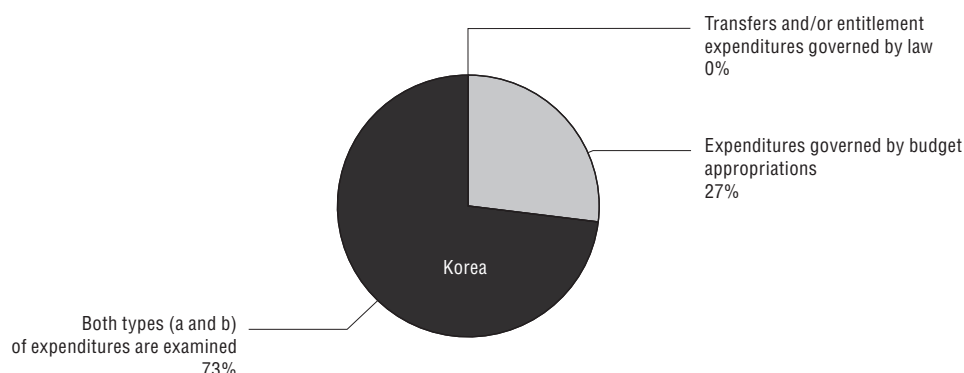
Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

prior to the start of the evaluation. Contrastingly, the results may not be publicly available in Korea. In Korea, the results from monitoring and periodic reviews are open to the public, but only the summaries of in-depth evaluation results are open to the public.

3.4.2. Type of expenditure and level of government covered by spending reviews⁵

The periodic reviews and in-depth evaluation, deal with both mandatory and discretionary spending (Figure 11).

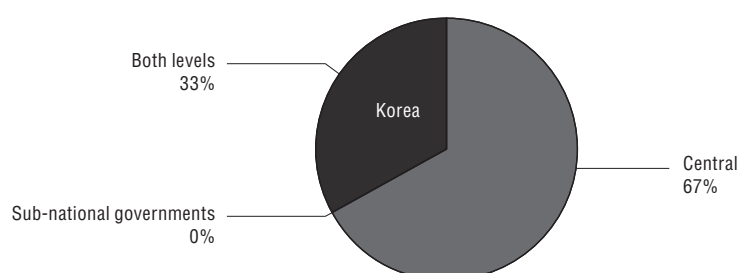
Figure 11. **What expenditures are covered by spending reviews?**



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Like most OECD countries, Korea conducts spending reviews only at the central government level where spending reviews rarely cover sub-national levels; two-thirds cover central government and only one-third covers both (Figure 12). Although the spending reviews in Korea evaluate only the central government's programme, programme implementation at the sub-national levels are also evaluated when the central programme are executed by the local governments.

Figure 12. **What levels of government are covered by spending reviews?**

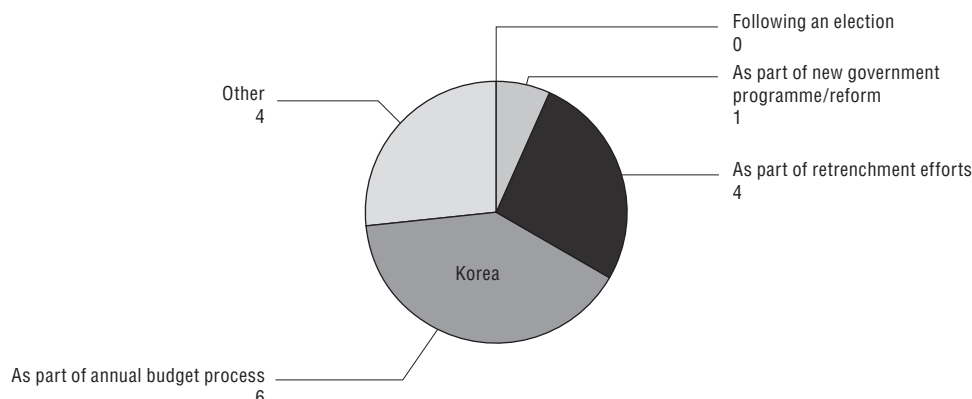


Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

3.4.3. Scope of spending reviews

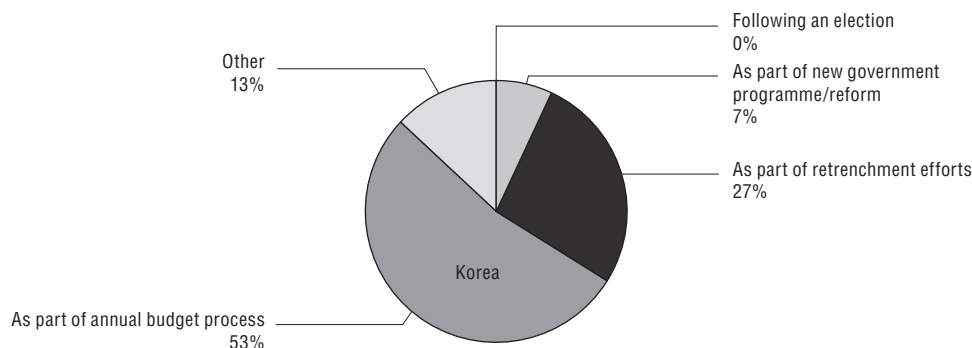
Comprehensive spending reviews covering all programme and expenditures are most often conducted as part of the annual budget process including Korea, followed by retrenchment efforts and other reasons (Figure 13). Periodic review process is run as a part of the annual budget process, in that the review results are used by line ministries and the CBA in their annual budget formulation process. When facing a fiscal crisis, the CBA runs ad hoc review process focusing on specific spending areas or policy tools.

Figure 13. **When are comprehensive SRs (all programme) conducted?**
(Unit: Number of Countries)



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Figure 14. **When are less comprehensive SRs (some programme) conducted?**



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

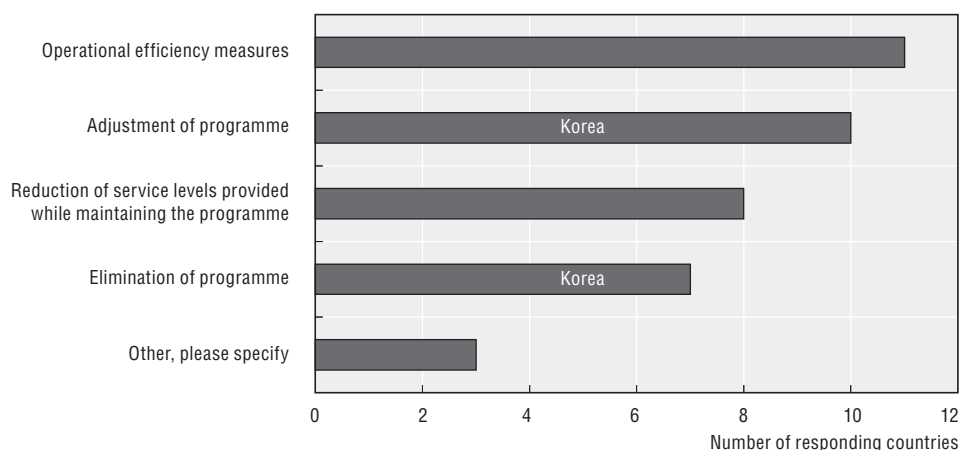
3.4.4. Savings measures adopted following spending reviews

With regards to the savings measures actually adopted by the countries using spending reviews, operational efficiency measures and elimination of programme are most commonly adopted in Korea which is similar to OECD countries (Figure 15). The results from the periodic review process are mostly used for budget cuts although it also recommends programme improvements to line ministries. The results from the in-depth evaluation are used for programme consolidation and programme adjustment. The ad hoc spending reviews in response to the fiscal crisis usually results in operational efficiency measures and elimination of programme.

3.5.1. Challenges for performance budgeting

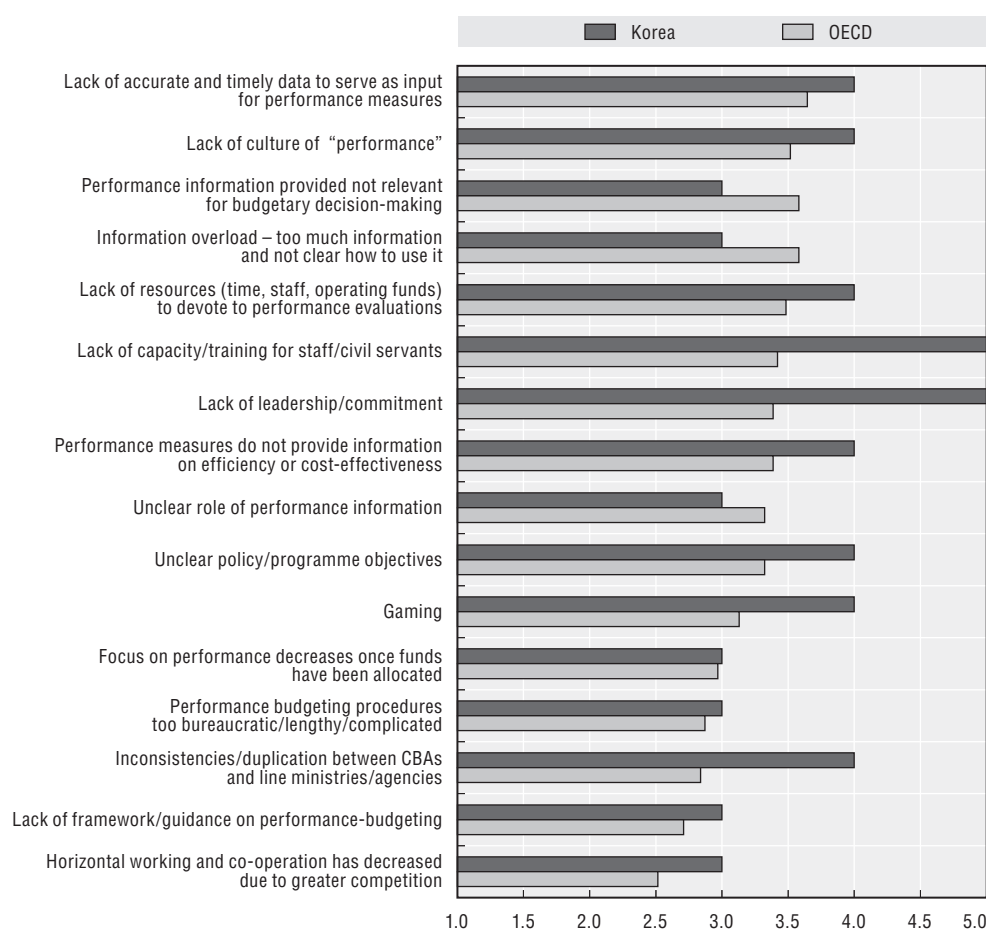
Korea reported several challenges as obstacles in implementing performance budgeting practices (Figure 16). The lack of capacity for civil servants and lack of leadership/commitment stand out in Korea compared with other OECD countries. The lack of accurate and timely data, the inexistence of a "culture of performance", irrelevant performance information and gaming are also mentioned among the most important challenges like the other OECD countries (Figure 16).

Figure 15. **What were the savings measures adopted by the last round of spending reviews?**



Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

Figure 16. **Challenges to performance budgeting**



Note: 1: Never 2: Rarely 3: Occasionally 4: Usually 5: Always

Source: Authors' calculation based on the data from 2011 OECD Survey on Performance Budgeting Practice.

In particular, lack of capacity for civil servants is one of the biggest challenges, because it is not easy to build and maintain capacity among civil servants due to their regular rotation of positions in the Korean government. Performance budgeting requires different skills of civil servants, such as planning, performance management and evaluation, and data management. Although public research institutes provide not only training and consulting services to public officials but also supports for monitoring and evaluation activities, the lack of capacity of programme managers and budget officials presents one of important obstacles for running the effective performance budgeting system.

4. Accomplishments, challenges and future directions of the Korean PB

4.1. Accomplishments

The Korean PB system contributed to many changes in the budget process and programme management practices among the CBA and line ministries. First of all, it explicitly introduced formal performance information into the discourse of budget negotiation and programme management. Line ministries are expected to present performance indicators and targets, and programme evaluation results when they engage in discussion with the CBA and outside stakeholders. Without it, they are usually in a weak position for negotiation, especially for the continuing programme. Since not only the monitoring and evaluation (M&E) information from the line ministries, but also that from the National Assembly Budget Office and CBA challenges the effectiveness of the line ministries' programme, line ministries are forced to present formal performance information to decision makers. Under this kind of pressure, line ministries are forced to establish a performance management system with agencies that implement their programme. Otherwise, they cannot produce a programme' performance information.

In the process of developing performance management system with agencies, the purpose of a programme becomes clear. In some cases, the programme goal itself is not shared among various stakeholders. When line ministries and agencies are required to engage in M&E activities, this goal's ambiguity becomes evident and it provides an opportunity to build consensus among stakeholders. For example, there were very different views about the welfare-to-work programme in Korea between inside and outside stakeholders. The inside stakeholders including the line ministry, service providers, and programme participants, thought its goal is to make the participants engage in communal activities to enhance their self-esteem. The programme had run with little focus on making the participants financially independent, which means moving them off government subsidy. Since the programme was subject to the periodic reviews, the line ministry was forced to use "number of participants who became off-government subsidy" as its performance indicator. According to the performance indicator, its performance was very poor and received an "ineffective" rating. During the review process, it became evident that outside stakeholders, including the CBA and external experts, viewed its goal as making its participants financially independent. Now the insider stakeholders accept that the programme's goal is the participants' financial independence rather than enhanced self-esteem. In response to its poor performance, programme managers tried pilot projects to introduce explicit incentives to service providers and introduced performance contract later, which greatly improved the programme performance. This example shows how the establishing of an M&E system aligns expectations among stakeholders and affects programme performance (Park and Choi, 2013).

Secondly, the performance information was integrated into the budget process. Annual performance plans and reports are submitted to the National Assembly for the purpose of accountability and transparency. Line ministries and the CBA are notified of periodic review results for the purpose of budget formulation. In particular, performance information is provided to the budget process and its use is recommended by the annual budget preparation guidelines issued by the CBA. Every year more than 20% of programmes have been rated as “ineffective” and subject to budget cuts with some exceptions. The size of budget cuts has been affected by the zeal of the CBA and macro-fiscal situations. For example, strong demand for fiscal consolidation resulted in bigger budget cuts for “ineffective” programme (Park, 2012).

The in-depth evaluation results are reported to the meeting chaired by the minister of the CBA and line ministries are required to report back with their follow-ups. Between 2008 and 2012, 329 recommendations were produced from the in-depth evaluation. As of 2013, 166 recommendations have been finished with follow-up actions and 144 are in progress.

Monitoring, periodic reviews, and selective in-depth evaluation are designed to provide performance information to the budget process within the executive branch. In addition, the Board of Audit and Inspection and the National Assembly Budget Office play their roles in the performance budgeting system. By the National Finance Act, the Board of Audit and Inspection is mandated to examine the performance report submitted by the executive branch, and the National Assembly receives annual performance plans and reports from line ministries. The Board of Audit and Inspection not only examines the credibility of performance information but also operation of the performance budgeting system. The National Assembly Budget Office also monitors the use of performance information for budget formulation and programme improvement. These external institutions put the pressure on the executive branch to use performance information in decision-making process.

4.2. Challenges

The performance budgeting reform has brought about many changes in the Korean government. It forces programme stakeholders to clarify programme goals and shifts the attention of programme managers from input and process control to outcome achievement. Performance information produced by performance budgeting has been used for decision-making purposes by embedding performance information into the budget process and with additional engagement of the external stakeholders including the Board of Audit and Inspection, and the National Assembly.

With significant achievements with performance budgeting, the Korean government also faces many challenges like other countries. First, the performance budgeting systems affect the mid-level programme managers rather than high-level managers. As the performance budgeting system becomes comprehensive and routinized, it draws relatively little attention from high-level decision makers. The monitoring system is not actively used within the executive branch, although it is a very important basis for the periodic reviews and in-depth evaluation. It is mostly for showing programme portfolios to the general public and it serves for the purpose of transparency. Since the periodic reviews focus on sub-programme level, mid-level managers prepare the review process and participate. Its impact is limited to the budget allocation of each sub-programme. While the in-depth evaluation focuses on cross-cutting programme and its results are reported to the meeting chaired by the minister of the CBA, it struggles to produce quality information due to a severe

asymmetric information problem between the CBA and line ministries. If the in-depth evaluation process can produce quality information, it has potential to attract attention of high-level decision makers. However, it is struggling to produce quality information.

Second, the capacity of the CBA and line ministries suffers from crucial bottlenecks in implementing performance budgeting systems. The Korean system is highly centralised in that not only guidelines are issued by the CBA, but also the review and evaluation activities are conducted by the CBA. The self-assessment results by line ministries are scrutinised by the CBA and the final results are very different from those of line ministries' self-assessment. Also the in-depth evaluation is conducted by the CBA with the passive involvement of line ministries. The centralisation was mostly driven by the fact that line ministries are not well prepared for the effective M&E activities. The budget offices within line ministries used to playing a role of collecting budget requests from programme managers with little analytical capacity (Park and Choi, 2013). Although there have been some efforts to improve their capacity, they are still struggling to establish and manage effective M&E systems within line ministries. The CBA itself has been facing the capacity issue, too. After a decade of performance budgeting efforts, building capacity among the CBA and line ministries remains an important challenge to be addressed.

4.3. Future directions

Recently the CBA in Korea has been contemplating overhauling the existing performance budgeting system. First, it reconsiders the proper role of the CBA and line ministries. The heavy handed centralised performance budgeting system puts too much burden on the CBA and hinders active participation of line ministries. The CBA has been leading the way by conducting the periodic reviews and in-depth evaluation with passive support from line ministries, but this approach raises the issue of sustainability. Although the centralised process helped to set the standard of the M&E, now it is time to give more responsibility to line ministries. Rather than scrutinising line ministries' self-assessment results, the CBA would like to respect their assessment as long as they abide by the guidelines set by the CBA. It means the CBA will not conduct all the reviews by itself. Line ministries may be required to conduct it and the CBA may focus on developing guidelines and conducting meta-evaluation.

Second, the CBA tries to improve co-ordination between various evaluation systems for the budgetary programme. Although the monitoring, periodic reviews, and in-depth evaluation system complete a set of comprehensive performance-oriented budgeting system in the Korean government, other evaluation processes exist for various purposes. For example, subsidy programme evaluation, earmarked fund evaluation and lottery fund evaluation systems have been operated for more focused performance management. Different units within the CBA and multiple institutes are involved with them. As a result, duplication and lack of co-ordination between them become evident. In response, the CBA consolidated scattered evaluation functions into the Fiscal Management Bureau in the Ministry of Strategy and Finance, and designated the Korea Institute of Public Finance as the hub for the research and supporting function provided by multiple research institutes. With this organisational change, the new direction for the performance-oriented budgeting system is in deliberation.

4.4. Observations and lessons

First, the way of organising and operating the performance-oriented budgeting system evolves over time. At the initial stage of reform when the capacity of stakeholders is

limited, it may be desirable and inevitable to adopt a centralised approach by developing framework and leading line ministries to develop proper process and information. Overtime, however, this centralised approach may not be sustainable. It may overburden the CBA and hinder active participation of line ministries by undermining their sense of ownership. It may also limit opportunities of line ministries' capacity building in the long run. The asymmetric information problem becomes bigger over time as line ministries adapt to the system and engage in strategic behaviour. Therefore, as the system matures, devolving proper roles to line ministries are essential to building a sense of ownership among line ministries.

Second, capacity building is a persistently challenging issue, especially for the government dominated by career bureaucrats. The career-bureaucrats tend to prefer positions with visible policy making function rather than those of management. In particular, the Korean government human resource management practice prefers general administrators rather than specialist. One feature of developing general administrators is regular rotation of positions among civil servants (Kim and Park, 2007). In this environment, it is very challenging to develop capacity of planning, monitoring and evaluation among civil servants. Although limited positions are reserved for some sets of special skills, skill in monitoring and evaluation has not been recognised as such one. Establishing incentive structure for building capacity of monitoring and evaluation should be considered seriously for the performance-oriented budgeting reform.

Notes

1. This chapter is the recap of "Making Performance Budgeting Reform Work: A Case Study of Korea (Part II. The Current PB System in Korea, 2013, World Bank, Nowook Park and Jae-Young Choi)" in which more detailed information on the historical background of Korea's Performance Budgeting can be found.
2. For the assessment of budgetary programme, the reasons why only 1/3 of programmes are evaluated each year are the following: 1) to relieve administrative burden 2) the performance of spending programme does not change every year. For in-depth evaluation, budget constraints and capacity to handle the evaluation were the main constraints.
3. Initially the rating consisted of four categories: effective, moderately effective, adequate, and ineffective. In 2008, a "very ineffective" category was introduced to raise review standards.
4. This chapter compares the OECD PB practices which were found in "2011 OECD Performance Budgeting Survey" with the Korean PB practices.
5. Spending reviews in Korea means the "In-depth Evaluation of Budgetary Programme" mentioned in the previous chapter. However, the "Self-Assessment of Budgetary Programme" can be also viewed as a periodic spending reviews focusing individual sub-programme.

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Study of public financial management systems for two Asian regional groups – Comparisons and key features for SAARC and ASEAN regions

by
Jaideep Kumar Mishra*

This paper presents assessments of Public Financial Management (PFM) Systems for two regional Asian groups – the South Asian Association for Regional Cooperation (SAARC) and the Association for South East Asian Nations (ASEAN). The study undertaken uses the Public Expenditure and Financial Accountability (PEFA) results for assessment of the performance of PFM systems of countries both within and across the two regions for the six PEFA framework dimensions. This paper also presents results of the study for comparing regional performance with global averages for various PEFA indicators to identify strengths and weaknesses. An in-depth analysis of the PEFA assessments was also done to identify key features and initiatives undertaken by the countries where strengths in PFM system indicators was identified, and recommendations made, for countries moving on the path of PFM reforms for performance improvement.

JEL classification: G00, H00, H60, H83

Key words: Public Financial Management (PFM), Asian regional groups – SAARC & ASEAN, Public Expenditure and Financial Accountability (PEFA) assessments, Key features and PFM initiatives

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1. Introduction

Effective Public Financial Management (PFM) systems at the national level enable countries to achieve objectives of maximising use of resources in a transparent manner with accountability in government finances, thus ensuring overall long-term economic growth. Research in PFM systems and reforms landscape based on comparative assessment of Public Financial Management (PFM) systems across regions and countries has been an area of active interest. The PFM system mostly covered for such studies include the planning, budgeting, budget execution (including procurement, receipt and payment, accounting and reporting) and the external and internal auditing systems. PFM assessment studies have varied focus including assessing their comprehensiveness and robustness in tracking public expenditures and receipts and the effectiveness of the internal and external audit mechanisms so as to ensure the integrity in the reports produced and follow-up mechanisms.

Several studies aimed at such issues have been conducted and reported. One of the earliest such studies was done in 2001 and the Public Expenditure Management (PEM) systems of 24 low-income countries were assessed using a common set of 15 questions in the areas of budget preparation, budget execution, and fiscal reporting. Results indicated that PEM systems of both Francophone and Anglophone regions in Africa attained only about 40% of the required benchmarks. Another study in 2003 aimed at analysing the common weaknesses of PEM systems in these two regions, and to find out if there are features of a specific PEM system in Africa that consistently perform better than other systems. The study concluded that any potential advantages of one system are nullified by the way that the systems are operated, and thus no distinct advantage of one system was identified over the other system. Review of PFM reforms for identifying the major underlying theories, significant trends and differences in approaches in developed (OECD) and developing countries has also been reported. In line with the 2005 Paris Declaration aimed at utilising country systems for donor funds disbursement, country PFM systems for developing framework for guiding the use of such country systems have been assessed.

Use of an assessment tool like the Public Expenditure and Financial Accountability (PEFA) has been frequently employed to assess and compare the performance of PFM systems, though studies have cautioned careful consideration for appropriate interpretation and representation while using this tool for cross-country comparisons since PEFA assessments despite being based on prescribed methodology for conducting such assessments, do have some scope for subjectivity due to individual/analyst biases. In the study by Renzo results of 57 PEFA assessments were utilised for comparative cross-country PFM performance and differences linked to certain country characteristics which might have an influence over PFM system performance were analysed. The study brought out two overall findings clearly: i) A large variation in overall average scores existed, ranging from Norway's maximum score of 3.44 (roughly equivalent to a B+) to a minimum score of 1.46 (roughly equivalent to a D+), with 14 countries below the average 2.00 mark (i.e. average

score below C) and ii) The average scores tended to deteriorate as one moves down the various phases of the budget cycle indicating the emphasis on earlier elements of PFM cycle viz. budgeting and execution by the governments.

In addition to the PEFA tool, a recent development aimed at assessing the risks and need for reforms is the International Monetary Fund's (IMF) planned new Fiscal Transparency Code and the new Fiscal Transparency Evaluation. These are part of the IMF's efforts to strengthen fiscal surveillance, support policymaking, and improve fiscal accountability. The tools are designed to ensure that all stakeholders have a complete picture of the state of public finances, covering the entire public sector, incorporating accurate and comprehensive fiscal forecasts while recognising all major fiscal risks for improving the fiscal disclosure and management in countries. The revised Code (presently in draft stage and piloted in select countries) aims to enhance the focus on fiscal transparency issues that are critical to macroeconomic policymaking, and designed to complement the assessment results through the Public Expenditure and Financial Accountability (PEFA) assessment framework.

Comparative study using PEFA assessments is available for select groups like Highly Indebted Poor Countries (HIPC). However PEFA assessment based PFM systems comparative studies even at regional level are not readily available in the public domain. Furthermore, no such study is available for the Asian region which includes at least two major regional groups viz. the South Asian Association for Regional Cooperation (SAARC) and the Association for South East Asian Nations (ASEAN). This paper attempts to focus on the PFM systems in the Asian region (both SAARC and ASEAN) to analyse systems across the countries and to compare these across the groups. The PFM systems across these two regional groups are also compared with the global averages to identify their strengths and weaknesses. For assessment purposes the data available through PEFA studies found to be the most efficient and reliable tool for this purpose, has been used. A comprehensive analysis of the PFM systems for countries scoring high in the assessment against various dimensions has also been done for identifying unique features common to these countries. Undertaking this analysis is based on the assumption that the PEFA scores are fairly correlated with better economic performance, though this aspect is also a subject of further analysis.

2. Objectives of the study

The present study is aimed at studying the PFM systems in two Asian regions viz. the SAARC and ASEAN region countries and to compare these countries' PFM systems with respect to global averages. For this study the PEFA assessments done by various agencies and published on the PEFA Secretariat website until mid-2014 have been utilised. Thus this study's aim is to:

1. Prepare PEFA derived assessments of PFM systems for SAARC and ASEAN regions for the six dimensions available in PEFA studies;
2. Compare PFM systems assessment in SAARC and ASEAN regions with global averages derived from PEFA assessments for all available countries globally;
3. Conduct in-depth analysis of key indicators of PFM systems in the two regions where significant strength is assessed through the PEFA studies;
4. Identify key features and initiatives taken by countries in this region leading to good PFM system indicators which can serve as guidance for countries intending to improve their PFM systems.

3. Use of the PEFA tool

The Public Financial Management (PFM) Performance Measurement Framework is an indicator-based assessment tool developed by the Public Expenditure and Financial Accountability (PEFA) initiative and was launched in 2005. Over the years it has been applied so far in over 90 countries. The framework consists of six dimensions constituting of 28 indicators (with an additional three dedicated to donor practices), which attempt to capture the capacity of country PFM systems to deliver positive outcomes along a series of dimensions:

1. Credibility of the budget (indicators 1-4) – budget is realistic and is implemented as intended;
2. Comprehensiveness and transparency (indicators 5-10) – budgeting is comprehensive, and fiscal and budget information is accessible to the public;
3. Policy-based budgeting (indicators 11-12) – budget is prepared in line with government policies and priorities;
4. Predictability and control in budget execution (indicators 13-21) – budget is implemented in planned and predictable manner with adequate control arrangements and stewardship in the use of public funds;
5. Accounting, recording and reporting (indicators 22-25) – adequate system for accounting record keeping and maintenance exists and information is disseminated to meet managerial decision-making and general reporting purposes; and
6. External scrutiny and audit (indicators 26-28) – adequate arrangements for scrutiny of system of public finances management and follow up by the executive is in place.

Many of the indicators include more specific sub-indicators, and each is scored on a grading scale ranging from “A” (highest) to “D” (lowest), with specific descriptions of the elements necessary to achieve each score for every indicator, and with intermediate scores (denoted by a “+” sign) available for composite indicators that include two or more sub-dimensions.

PEFA reports provide detailed accounts of the performance of PFM systems along various dimensions. For some time now, the PEFA assessments have been carried out in order to identify strengths and weaknesses of a particular country’s PFM systems and to establish performance baselines (for formulation of reform programmes and for monitoring performance progress over time). Making meaningful comparisons of scores over time within countries and cross-country comparisons both at a given point in time and over time has been a considerably researched area. Comparing scores for each indicator after conversion of the ordinal (grading) to a numerical score enables measuring the PFM performance and facilitates cross-country comparisons. However, since there is no scientifically correct method on how aggregation and comparison should be done for each of those three levels of assumptions, the PEFA programme neither supports nor recommends any particular approach to aggregation. Accordingly the PEFA programme recommends users to clearly explain the aggregation method and assumptions applied in each case, and the reasons for the choice as part of the dissemination of results from comparison. Undertaking sensitivity analysis to highlight the extent to which their findings are robust under alternative aggregation assumptions is also recommended by the PEFA.

4. Methodology adopted

The study utilises the latest available PEFA assessments as provided on the PEFA Secretariat website until mid-2014. In order to facilitate comparisons, all PEFA scores have been converted to numerical values, according to the table below.

Table 1. Numerical value of PEFA scores

PEFA Score	A	B+	B	C+	C	D+	D
Numerical Score Assigned	4	3.5	3	2.5	2	1.5	1

Source: Based on PEFA assessments reported as compiled by the Author.

All assessments with an “NA” or “NU” rating are treated as those where country systems are not capable of providing data and hence assigned a score of “0” (zero).

The country data set for this study comprised the following:

South Asian Association for Regional Cooperation (SAARC) – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal and Pakistan. No PEFA assessment is available for Sri Lanka, hence not considered in this study.

Association for South East Asian Nations (ASEAN) – Cambodia, Indonesia, Laos, Myanmar, Philippines, Thailand, Viet Nam. No PEFA assessment is available for Malaysia, Brunei and Singapore, hence not considered in this study.

Global – Data of 91 countries as available on PEFA Secretariat website /database.

The PEFA assessed grading for these three data-sets were converted to numerical scores for each country in the region and regional averages calculated. These scores were subsequently analysed for each country and compared to the six PFM dimensions across the two Asian regions. These regional scores were thereafter compared with the global PEFA assessments converted into numerical scores. Furthermore, an in-depth analysis of the specific indicators (from within the 28 PEFA indicators) indicating these variations and the reasons for strengths in the country-specific PFM systems was also done.

5. Results

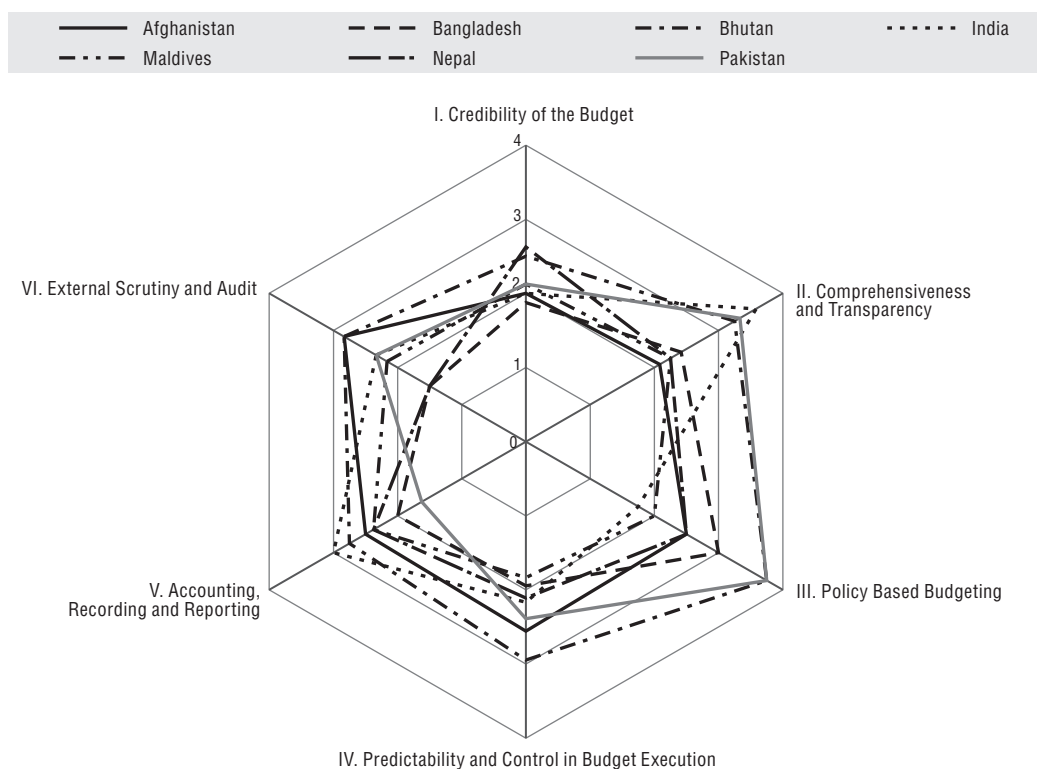
This study covers a wide data set and PFM aspects. Accordingly the results have been analysed for each of these aspects and presented in following sections:

1. Assessment of country PFM systems/dimensions in SAARC region
2. Assessment of country PFM systems/dimensions in ASEAN region
3. In-depth (indicator-wise) comparison of SAARC and ASEAN PFM systems
4. In-depth comparisons of Asian PFM systems (SAARC and ASEAN regions) with Global Systems
5. Identification of factors boosting strengths in PFM dimensions through key features in country PFM systems.

5.1. PFM Systems in the SAARC region

The seven countries’ comparative for the six PEFA dimensions is shown in Figure 1.

It can be seen that the countries are fairly consistent in their performance across the dimensions with outer lines (better scores) for Bhutan and inner lines (lower scores) for Maldives and Bangladesh. The country scores converted using the grading from PEFA assessments depicted in Figure 1 are presented below for detailed analysis.

Figure 1. **PEFA scoring for SAARC countries**

Source: Based on PEFA assessments reported as compiled by the Author.

Table 2. **PEFA assessed scores for PFM systems in SAARC region**

	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Average
I. Credibility of the Budget	2.0	1.9	2.5	2.0	2.1	2.6	2.1	2.2
II. Comprehensiveness and Transparency	2.1	2.4	3.3	3.6	2.3	2.3	3.3	2.7
III. Policy Based Budgeting	2.5	3.0	3.8	1.8	2.0	2.5	3.8	2.8
IV. Predictability and Control in Budget Execution	2.6	1.9	2.9	2.2	1.8	2.1	2.4	2.3
V. Accounting, Recording and Reporting	2.5	2.0	2.8	3.0	2.4	2.4	1.6	2.4
VI. External Scrutiny and Audit	2.8	1.5	2.8	2.3	2.2	1.5	2.3	2.2
Average	2.4	2.1	3.0	2.5	2.1	2.2	2.6	2.4

Source: Based on PEFA assessments reported as compiled by the Author.

Figure 1 and the scores presented in Table 1 above clearly brings out that the overall average scores in SAARC region are highest for policy based budgeting (2.8/4), followed by comprehensiveness and transparency (2.7/4) and least for external scrutiny and audit (2.2/4) and credibility of budget (2.2/4).

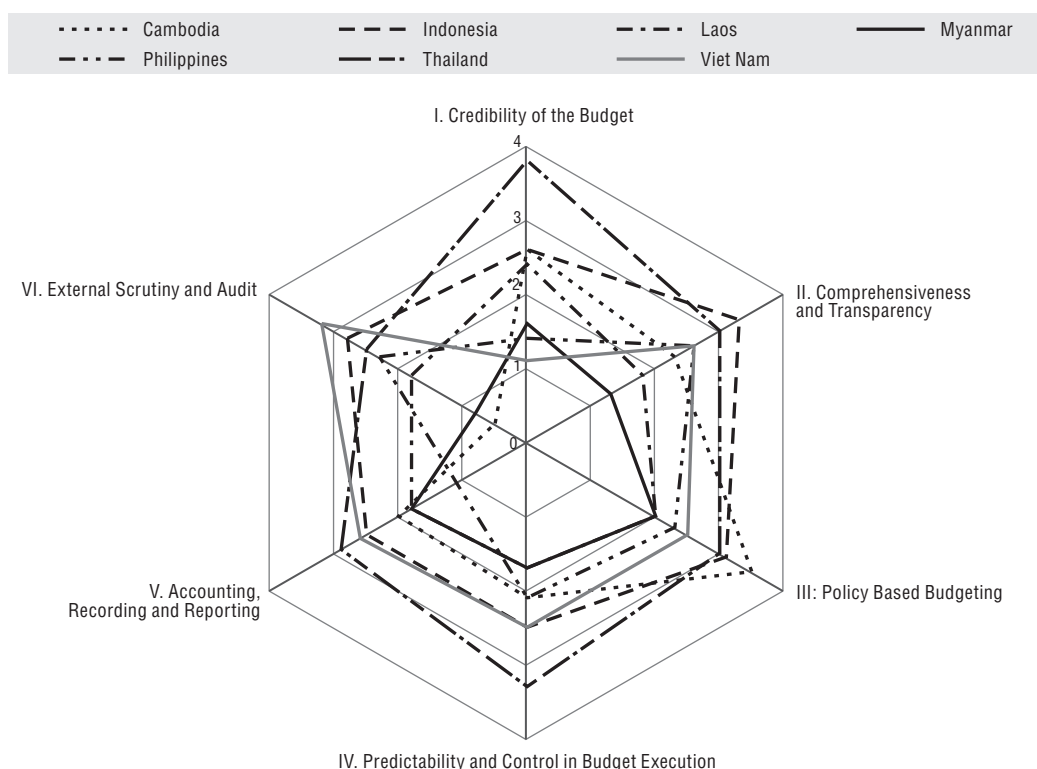
While cross country comparisons are not intended due to various reasons detailed in the paper earlier, macro-level assessment indicates that the PFEA average scores are better for Bhutan (3.0/4) followed by other countries and lower scores for Bangladesh (2.1/4) and Maldives (2.1/4). There is strength in all PFM dimensions in the Bhutan system with the dimensions pertaining to policy based budgeting, comprehensiveness and transparency of budget and external scrutiny and audit being particularly stronger. For Bangladesh, while general weakness in all PEFA dimensions is observed, there is particular weakness for the external scrutiny and audit dimension. The assessment for the Maldives also indicates a

similar pattern as Bangladesh's with general weakness in all systems and with particular weakness for the predictability and control in the budget execution dimension. The Afghanistan PFM systems show some strength for the external scrutiny and audit and also for the predictability and control in budget execution dimension. However this result should be viewed with some caution as almost the entire Afghan budget is externally financed and thus the strength in this dimension is largely attributable to the donors who are keeping track of their money. India's scores show a mixed picture with strength in dimensions relating to comprehensiveness and transparency in budgeting and in accounting, recording and reporting. A relatively weaker area is in policy based budgeting. Assessment for Nepal also indicates generally weaker systems with particular weakness in external scrutiny and audit, however with relative strength in credibility of the budget dimension. The Pakistan PFM assessment scores indicate relative strength in the budgeting dimensions (dimensions II and III) but weakness in accounting, recording and reporting areas.

5.2. PFM Systems in the ASEAN region

The comparison of the seven countries in the ASEAN region to the six PEFA dimensions is shown in Figure 2.

Figure 2. **PEFA scoring for ASEAN countries**



Source: Based on PEFA assessments reported as compiled by the Author.

It can be seen that similar to the SAARC comparison, there is fair consistency in the PFM dimensions across the countries with the outer ring (better scores) for Thailand and inner rings (lower scores) for Myanmar and Laos. However Cambodia and Viet Nam show

sharp variations for two dimensions (No. III and VI) as discussed below. From the detailed results tabulated below, following observations are pertinent.

Table 3. PEFA assessed scores for PFM systems in ASEAN region

	Cambodia	Indonesia	Laos	Myanmar	Philippines	Thailand	Viet Nam	Average
I. Credibility of the Budget	2.6	2.6	2.4	1.6	1.4	3.8	1.1	2.2
II. Comprehensiveness and Transparency	2.3	3.3	1.8	1.3	2.6	3.0	2.6	2.4
III. Policy Based Budgeting	3.5	3.1	2.0	2.0	2.3	3.0	2.5	2.6
IV. Predictability and Control in Budget Execution	2.1	2.5	1.7	1.7	2.1	3.3	2.5	2.3
V. Accounting, Recording and Reporting	2.0	2.5	1.8	1.8	1.1	2.9	2.6	2.1
VI. External Scrutiny and Audit	0.5	2.8	1.8	0.8	2.3	2.5	3.2	2.0
Average	2.2	2.8	1.9	1.5	2.0	3.1	2.4	2.3

Source: Based on PEFA assessments reported as compiled by the Author.

Overall average scores in the ASEAN region are highest for policy based budgeting (2.6/4), followed by comprehensiveness and transparency (2.4/4) and least for external scrutiny and audit (2.0/4). This is the same trend as that observed for SAARC region.

While cross country comparisons are not intended due to various reasons detailed in the paper earlier, macro-level assessment indicates that the PFEA average scores are better for Thailand (3.1), followed by Indonesia (2.8) and lower scores for Myanmar (1.5) and Laos (1.9).

The Thailand PFM systems are particularly strong with respect to all budgeting related dimensions as well as budget execution and accounting system. The Myanmar scores are particularly low in dimensions relating to comprehensiveness and transparency and in external scrutiny and audit. Laos also shows general weakness for all aspects except for some strength in the credibility of the budget dimension.

Interestingly, in the ASEAN region Cambodia shows significant strength in policy based budgeting, but also shows weakness in external scrutiny and audit dimension. Indonesia scores indicate strength in all dimensions relating to budgeting as well as in external scrutiny and audit. Philippines show significant weakness in the dimensions relating to credibility of budget as well as in accounting, recording and reporting. Again interestingly, Viet Nam's results indicate considerable strength in the ASEAN region for the external scrutiny and audit dimensions, while also showing weakness for the credibility of budget dimension.

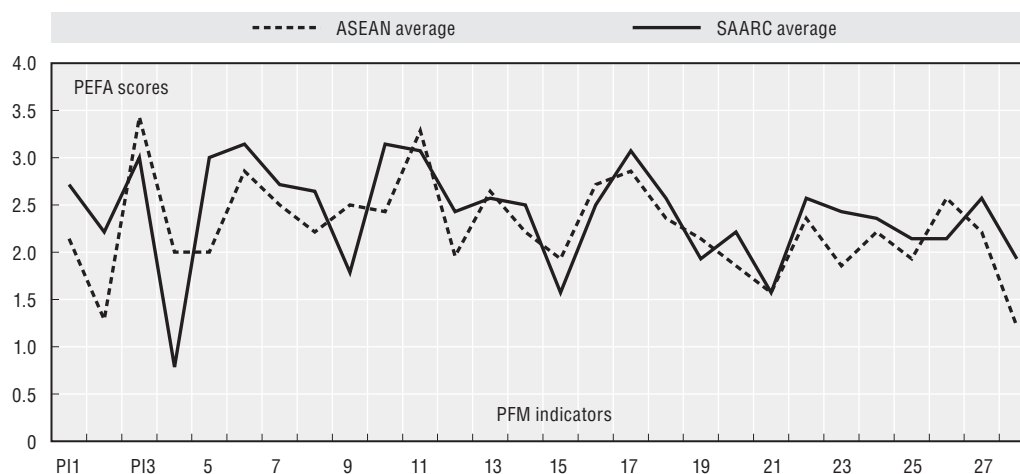
5.3. Comparison of PFM Systems in the SAARC region with the ASEAN region

From Tables 1 and 2 it can be seen that the overall average for both regions is virtually the same (SAARC region: 2.4/4.0; ASEAN region: 2.3/4.0) with the SAARC averages being higher than ASEAN averages for most dimensions. Figure 3 below shows the indicator-wise comparison for both SAARC and ASEAN regions.

The following inferences are relevant in this regard:

The SAARC region has strengths in most PEFA assessed PFM dimensions. This is observed through better scores for most indicators, the prominent ones are those pertaining to:

- Credibility of budgeting (aggregate expenditure out-turn compared to original approved budget [indicator No. 1]);
- Composition of expenditure out-turn compared to original approved budget (indicator No. 2);

Figure 3. **Indicator-wise Comparisons between SAARC and ASEAN regions**

Source: Based on PEFA assessments reported as compiled by the Author.

- c) Comprehensiveness and transparency (classification of the budget [indicator No. 5]);
- d) Transparency of inter-governmental fiscal relations (indicator No. 10);
- e) Public access to key fiscal information (indicator No. 8);
- f) Policy based budgeting (multi-year perspective in fiscal planning, expenditure policy and budgeting [indicator No. 12]);
- g) Budget execution (effectiveness of internal controls for non-salary expenditure [indicator No. 20]);
- h) Accounting and reporting (availability of information on resources received by service delivery units [indicator No. 23]);
- i) External scrutiny and audit (legislative scrutiny of external audit reports [indicator No. 28] and
- j) Legislative scrutiny of the annual budget law (indicator No. 27).

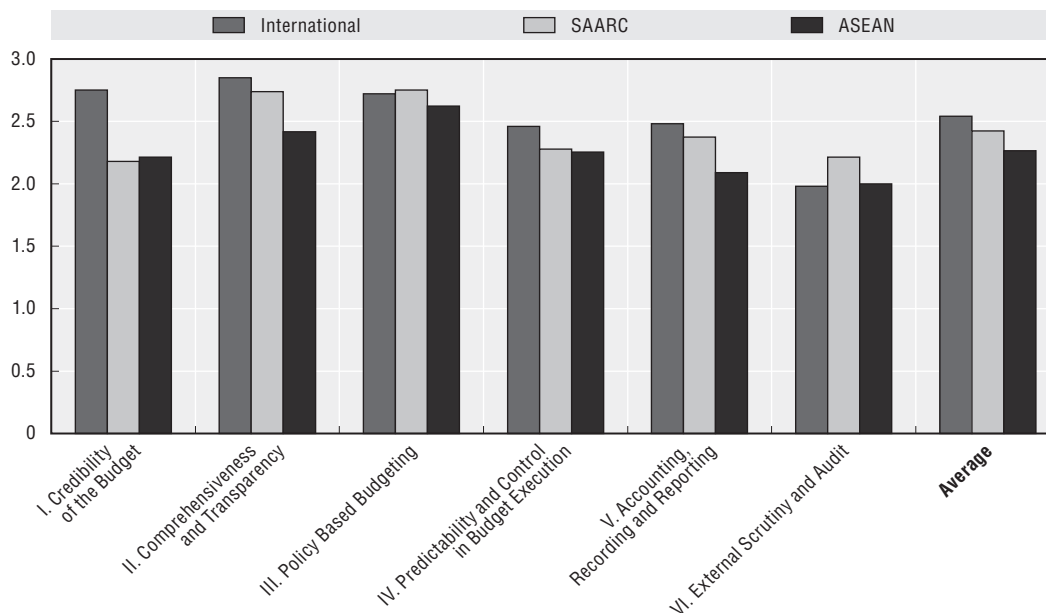
The ASEAN region strengths lie in select indicators relating to:

- a) Budgeting aspect (aggregate revenue out-turn compared to original approved budget (indicator No. 4);
- b) Stock and monitoring of expenditure payment arrears (indicator No. 3);
- c) Oversight of aggregate fiscal risk from other public sector entities (indicator No. 9);
- d) Effectiveness in collection of tax payments (indicator No. 15) and
- e) Scope, nature and follow-up of external audit (indicator No. 26).

5.4. Comparison of the SAARC and the ASEAN PFM Systems with Global Systems

The comparative position of the two SAARC and ASEAN regional systems scored on the six PFM dimensions with the global PEFA average for PFM dimensions is shown in Figure 4 below.

It can be seen that though the three data-set show similarities in the performance across various dimensions, the main area of weakness for the Asian region is on Credibility of Budget dimension, while there is slight advantage in the dimension on external scrutiny

Figure 4. **Comparison of Asian (SAARC and ASEAN) countries with global (International) averages**

Source: Based on PEFA assessments reported as compiled by the Author.

Table 4. **Comparison of PEFA assessed scores for PFM systems in Asian regions with global averages**

	SAARC	ASEAN	Global
I. Credibility of the Budget	2.2	2.2	2.8
II. Comprehensiveness and Transparency	2.7	2.4	2.9
III. Policy Based Budgeting	2.8	2.6	2.7
IV. Predictability and Control in Budget Execution	2.3	2.3	2.5
V. Accounting, Recording and Reporting	2.4	2.1	2.5
VI. External Scrutiny and Audit	2.2	2.0	2.0
Average	2.4	2.3	2.5

Source: Based on PEFA assessments reported as compiled by the Author.

and audit. Table 4 shows the PEFA assessed scores in comparison to the regional averages with global/international averages.

From Table 4, the following observations are pertinent:

1. The SAARC and ASEAN regional averages are very much similar to the global averages, though just marginally lower.
2. In general, across both Asian regions and globally, the scores tend to decrease as one goes down the PFM cycle. Thus scores are higher in budgeting stage, followed by budget execution, accounting, reporting and least for external scrutiny and audit.
3. External scrutiny and audit and policy based budgeting dimensions are stronger in SAARC region than both ASEAN and Global averages.
4. There is considerable weakness in the credibility of budget dimension for both SAARC and ASEAN region as compared to Global average.

5. Weakness in other dimensions viz. comprehensiveness and transparency, predictability and control in budget execution and accounting, recording and reporting, is also found in both SAARC and ASEAN regions as compared to Global region averages.

Furthermore, in order to gain an in-depth understanding of the comparative results for these six dimensions across the regions, the individual PEFA indicators have been analysed. This effort provides the assessment of which PFM systems indicators are better or worse performing in the SAARC and ASEAN regions with respect to the global systems. The summary results for indicator-wise comparison between the SAARC and ASEAN regions with the Global systems, individually, are presented below.

5.4.1. Assessment of the SAARC region PFM Systems with respect to global systems

As indicated above, the dimension relating to external scrutiny and audit is significantly stronger for the SAARC region as compared to the global average. This is primarily attributable to the high scores observed in the case of Bhutan, (arising due to strengths in indicators relating to scope, nature and follow-up of external audit [indicator No. 26]) and legislative scrutiny of external audit reports (indicator No. 28) and for India (arising due to the strength in legislative scrutiny of annual budget law [indicator No. 27]).

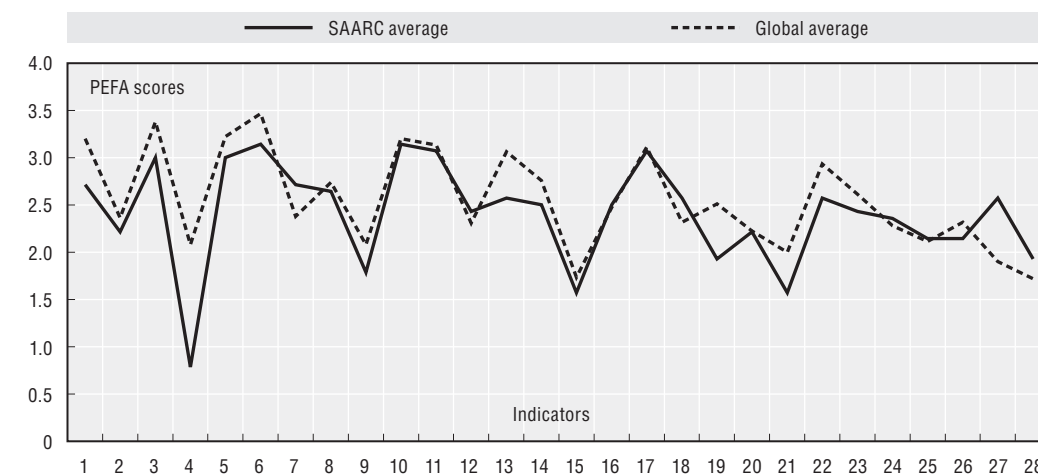
Figure 5 provides the PEFA indicator-wise comparisons for the SAARC region with Global averages.

Figure 5 clearly shows the strengths and weaknesses of SAARC systems as compared to the global averages. The important observations are below.

In addition to all indicators related to external scrutiny and audit, the SAARC systems score higher than global averages for indicators related to:

- a. Effectiveness of payroll controls (indicator No. 18) and
- b. Extent of unreported government operations (indicator No. 7).

Figure 5. **Indicator-wise comparisons between the SAARC and the Global PFM Systems**



Source: Based on PEFA assessments reported as compiled by the Author.

In contrast, SAARC systems indicate weaknesses as compared to the global averages for areas related to:

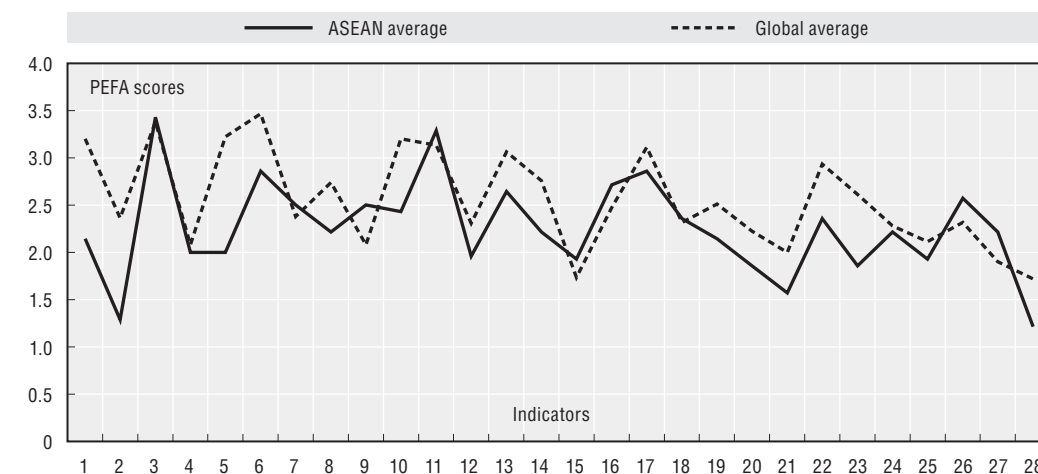
- a) Stock and monitoring of expenditure payment arrears (indicator No. 4),

- b) Aggregate expenditure out-turn compared to the original approved budget (indicator No. 1),
- c) Transparency of taxpayer obligations and liabilities (indicators No. 13),
- d) Transparency, competition and complaints mechanisms in procurement (indicator No. 19) and
- e) Effectiveness of internal audit (indicator No. 21).

5.4.2. Assessment of the ASEAN Region PFM Systems with respect to global systems

Overall, as indicated previously, the ASEAN PFM systems PEFA scores are generally lower than the Global averages. Figure 6 below provides a snapshot of the indicator-wise comparison between the two data-set.

Figure 6. **Indicator-wise comparisons between the ASEAN and Global PFM Systems**



Source: Based on PEFA assessments reported as compiled by the Author.

It is thus observed that the ASEAN PFM systems strengths as compared to global averages are in areas of:

- a) Oversight of aggregate fiscal risk from other public sector entities (indicator No. 9),
- b) Effectiveness in collection of tax payments (indicator No. 15),
- c) Predictability in the availability of funds for commitment of expenditures (indicator No. 16),
- d) Scope, nature and follow-up of external audit (indicator No. 26) and
- e) Legislative scrutiny of the annual budget law (indicator No. 27).

The weaknesses in ASEAN PFM systems are for all other indicators including those pertaining to credibility of budgeting, comprehensiveness and transparency in the tax system, budget execution and accounting and reporting (timeliness and regularity of accounts reconciliation).

6. Key features and initiatives contributing to better PFM Systems

The above analysis brings out the variations in the performance of PFM systems across the countries in this region and therefore some very interesting issues.

1. Reasons for the decreasing trend in PFM scores in the PFM cycle indicating weaker performance as one goes down from the budgeting to budget execution and external scrutiny/audit stages.
2. Factors contributing to variations in performance for some PFM dimensions between the SAARC and ASEAN systems.
3. Reasons for greater strength in policy based budgeting in the Asian region (in both SAARC and ASEAN) as compared to global averages.
4. Factors responsible for strengths in Bhutan and Thailand PFM systems in the SAARC and ASEAN regions respectively.
5. Peculiarity in Viet Nam's and Afghanistan's PFM systems that support strengths in the external scrutiny and audit dimensions.
6. Features of Thailand's Budgeting system leading to its high score in the budget credibility dimension.
7. Features in India's and Bhutan's budgeting system for strengths in the comprehensiveness and transparency dimension.

These observations indicate need for an in-depth analysis of what systems exist and specifically what has been done by national governments in institutionalising their PFM systems. Accordingly, to identify the reasons for variations observed across the regions for the various dimensions/indicators and to understand the factors responsible for the same, a systemic study of the PEFA and Public Financial Management Accountability Assessment reports published by the World Bank was done. Reports were studied in detail for the countries which have demonstrated strong PFM systems for various dimensions so as to ascertain the specific reasons for such results. Specific initiatives taken by these countries were consolidated, dimension-wise, to provide some insights into possible lessons learnt and to serve as guidance for other countries intending to improve their PFM systems.

I. Improving budget credibility

The better scores among the SAARC and ASEAN regions are for Thailand, Nepal, Indonesia and Cambodia indicating strength in their PFM systems for this dimension. Some of the significant observations and specific initiatives by these countries are summarised in following sections.

Considerable importance is assigned in these countries to discussing and finalising the budget aggregates for expenditure through formal mechanisms like high powered groups or select committees. In Nepal, a "Resource Committee" comprising the Vice Chairman of National Planning Commission (NPC), Secretary of the Ministry of Finance and Governor of the Nepal Rastra Bank (Central Bank) meets for finalising the budget aggregates for expenditure, domestic revenue, domestic borrowing and aid levels for the coming fiscal year.

A macro-level budgeting approach with formal adoption of a medium term budgetary framework is a common feature across these countries. For example, a realistic medium-term macro-fiscal framework (MTMFF) has been developed and implemented in the case of Cambodia, while similar frameworks exist in other countries as well.

The common feature observed across these countries is that the domestic revenue receipts estimated in the budgets are fairly realistic. This ensured that actual collections either exceeded the budget estimates consistently as observed for Thailand or were very close to estimations as in the case of both Nepal and Indonesia. Thus these countries have adopted

a budgeting system which prefers a conservative approach in estimating the revenues and thereby deciding the expenditure limits according to these estimates, rather than an aggressive approach requiring active expenditure control for meeting the deficit targets.

A key initiative observed among these countries is their ability to have good control over the stock and monitoring of expenditure payment arrears. In Thailand, the stock of arrears of central government expenditure (including expenditure from revolving funds) has been negligible and no records of any arrears exist. Similarly, while a pure cash accounting system does not record arrears, Indonesia's current cash-towards-accrual accounting system periodically records the stock of liabilities to third parties and reports these in the financial statements. In Cambodia payment arrears were successfully eliminated in 2007 and have not resurfaced since then.

Credibility of budget has also been supported by initiatives in related dimensions among these countries. These include implementing improved budget execution processes, integrated government-wide accounting information systems etc., all of which support the budget credibility through better controls and quicker decision making. Noticeably in Cambodia, progress in consolidating government bank accounts, strengthening the Treasury Single Account (TSA), improving system for cash management and expanding the use of commercial banks for government transactions has assisted in better budget credibility along with better performance in other dimensions while ensuring greater predictability, reliability and availability of financial resources.

Key findings and recommendations

- Ensure high level commitment and adequate time in finalising the budget aggregates for expenditure
- Adopt the Medium Term budgetary framework
- Ensure realistic estimation of the domestic revenue receipts, conservative approach seems better
- Develop and implement systems to ensure good control over the stock and monitoring of expenditure payment arrears

II. Increasing the comprehensiveness and transparency of budget

The better performing systems for this dimension relating to the comprehensiveness and transparency of budgets are observed for India, Bhutan and Pakistan. Some of the significant features and initiatives undertaken by these countries are summarised in following the sections.

Across these countries a standardised budget classification system harmonised with all stages of financial administration (accounting system) catering to economic, administrative, programme classification and which can produce consistent documentation according to Government Finance Statistics (GFS)/Classification of the Functions of Government (COFOG) standards, has been implemented. The budget classification systems are consistent with the COFOG and GFS manual of 1986.

The budget documentation is found to be quite comprehensive and fulfils nearly all of the nine benchmarks identified in the PEFA assessment framework – i) macro-economic assumptions, including at least estimates of aggregate growth, inflation and exchange rate,

ii) fiscal deficit, defined according to GFS or other internationally recognised standards, iii) deficit financing, describing anticipated composition, iv) debt stock, incl. details at least for the beginning of the current year, v) financial assets, including details at least for the beginning of the current year, vi) prior year's budget out-turn, presented in the same format as the budget proposal, vii) current year's budget (revised budget or estimated out-turn), presented in the same format, viii) summarised budget data for both revenue and expenditure according to the main heads of the classification used, including data for the current and previous years and ix) explanation of budget implications of new policy initiatives, with estimates of the budgetary impact of all major revenue policy changes and/or some major changes to expenditure programmes. The Budget documents prepared meet all nine benchmarks in India, eight in Pakistan and seven in Bhutan, thus indicating comprehensiveness in the budget preparation process and documentation.

An important common feature regarding the available budgetary information indicates that among these countries the scope for unreported government operations is minimal and that the financial operations of the extra budgetary funds are reported in the budget documents (as observed in the case of India). In the case of Bhutan, apart from security restrictions on defence expenditure details, there are no significant government operations that are unreported. Furthermore, the Bhutanese Annual Financial Statements also contain brief statements on the Trust Funds which are outside the budget and any activities funded from these trust funds are incorporated into the Budget and funds are channelled through the normal budgetary procedures.

Inclusion of data relating to external assistance and donor related funding and reflecting them in the budget documents is another key feature observed in these countries. In the Indian system the external assistance to the Government for financing development projects and programmes is routed through the budget and recorded as an inflow in budget documents with corresponding expenditure items reflecting the use of resources. Likewise in the Bhutanese system all donor funds irrespective of the funding source are routed through the Government budgetary mechanism and all expenditures information are also reported in the fiscal reports. Furthermore, any direct disbursements made by donors are also incorporated in the respective agencies' monthly accounts as assistance in-kind.

On the transparency front, the budgeting systems in these countries make available most of the 6 listed types of information required to be made public as per the PEFA framework. For example, the Indian system makes available to the public 5 of these 6 listed types of information. Furthermore in India, the Fiscal Responsibility and Budget Management Act (FRBM) enacted in 2004 requires the government to present three documents, the Medium-term Fiscal Policy Statement, Fiscal Policy Strategy Statement and Macro-economic Framework Statement before the Parliament, along with the annual budget.

Another key area supporting greater transparency in the budgeting system is by adopting an open and transparent system for inter-governmental fiscal flows and relations. This is particularly demonstrated in budgeting systems of Bhutan and Pakistan where the allocation of resources for local government and the central government is based on established rules and formulas (as in Bhutan) and the transfers from the Federal Government of Pakistan to provincial governments are governed by rules settled under the Constitution and done in a transparent manner. Furthermore it is also observed in these countries that the sub-national/provincial governments cannot create fiscal liabilities in the form of

borrowings or centrally backed guarantees or borrowings that have impact on the central/federal Government PFM system. Thus the fiscal discipline rules and their implementation are both adhered to in these countries of better budgeting systems on this dimension.

Two other common features observed across these countries are the adoption of a uniform Chart of Account and implementation of a centralised system (government-wide IFMIS) which is utilised for recording all intra and inter-governmental transactions. The Bhutanese system follows the sectoral budget allocations classification and sector wise allocations as a percentage of all sub-national governments are consolidated and presented to the Parliament every year. The consolidation of the annual financials starts after the end of the financial year and is completed within six months as expenditures for both Sub-National and Central government is maintained under the same database in the Centralised Budget and Accounts System (CBA). In the Pakistani system, the federal and provincial Accountant Generals operate under the Controller General of Accounts (CGA) and have a uniform Chart of Accounts and accounting system. The fiscal reports are required to be generated from the GFMIS from provincial governments within 2 months from end of fiscal year and these are to be consistent with Federal Government's fiscal reports. Thus adoption of a uniform COA and implementation of GIFMIS across the countries supports the budgeting system performance owing to greater processing capabilities (thus more comprehensive) and better transparency which effective leveraging to IT enables.

Key findings and recommendations

- Adopt and implement a standardised budget classification system harmonised with all stages of PFM cycle, e.g. the GFS or COFOG system.
- Prepare and publish comprehensive budget documentation that fulfil most of the nine benchmarks identified in the PEFA assessment framework.
- Keep the scope for unreported government operations in the budget documents to be minimal.
- Ensure that the financial operations of the extra budgetary funds are also reported in the budget documents.
- Include data relating to external assistance and donor related funding in the budget documents.
- Augment transparency in the budgeting systems by making public the six listed types of information as per the PEFA framework.
- Adopt open and transparent systems for reporting inter-governmental fiscal flows.
- Adopt and implement a uniform Chart of Account across various tiers of government.
- Implement a centralised system (government-wide IFMIS) which is utilised for recording all intra and inter-governmental transactions.

III. Introducing policy based budgeting

The better systems enabling policy based budgeting among the two Asian regions are observed for Bhutan and Pakistan, both of which are SAARC countries.

The single-most factor responsible for enabling strong systems in this dimension is the degree of importance assigned to the budget preparation exercise. This is essentially

ensured through the highest level involvement thereby ensuring adequate ownership while imbibing major policy directives of the government. In Bhutan, Article 46 of the Public Finance Act 2007 requires submission to the Parliament of the Budget Policy and Fiscal Framework Statement (BPFFS) by the Minister of Finance. The framework includes strategic priorities by which Government was guided in preparing the budget for the financial year and for the 2 outer years. Forecasts of fiscal aggregates are prepared for 3 years on a rolling basis. The BPFFS is prepared and presented by the Finance Minister bi-annually to the Parliament along with other budget documents and the BPFFS is approved by the Parliament. The budget preparation process is streamlined and well documented, while giving adequate time for all concerned entities. In Pakistan's budgeting system a clear annual budget calendar exists, is adhered to and allows ministries sufficient time to complete their detailed estimates on time. Furthermore, with the introduction of medium-term budgeting framework (MTBF) guidance, budget preparation has improved as the Budget Call circular provides clear and detailed instructions and includes budgetary ceilings as approved by the Cabinet.

The second feature supporting this dimension is that the budget preparation exercise is backed by a detailed Debt sustainability analysis (DSA) which is invariably carried out by the governments for all public and publicly-guaranteed external and domestic debt. It is pertinent to mention that while undertaking DSA is not a PFEA indicator; its use has been observed in countries with strength in this dimension. In Bhutan this is done through the Department of Public Accounts, Ministry of Finance in joint consultation with international aid agencies, at least once every two years. In Pakistan it is carried out as part of Debt Policy Statement issued annually as also as part of IMF article IV consultation and Budget Strategy Paper prepared annually. Thus DSA analysis supports implementing a policy based budgeting system across the governments.

Policy based budgeting is further reinforced by developing sector wise strategy or development plans for a major portion of the expenditures and with detailed costing for the various schemes/projects. In Bhutan such sectoral strategy representing at least 75% of primary expenditure (with a full costing of recurrent and capital expenditure) exists within the frameworks of both the Annual Financial Statements as well as the Budget Appropriations documents, the Finance Minister's Budget Report to the Parliament and the Five Year Plans. The full costs of all forward expenditures, i.e. recurrent and capital are presented in separate volumes of the Budget Appropriation (BA) report for each Sector, Autonomous Agencies, and Dzongkhags (first-tier local governments).

Such initiatives by governments and adoption of specific measures as outlined above are instrumental in supporting policy based budgeting systems leading to overall effectiveness in the budgeting exercise.

Key findings and recommendations

- Assign top importance to the budget preparation exercise
- Develop sector wise strategy or development plans for a major portion of the expenditures and with detailed costing for the various schemes/projects
- Undertake a detailed Debt sustainability analysis (DSA) for all public and publicly-guaranteed external and domestic debt

IV. Enhancing the predictability and control in budget execution

The strength in budget execution systems across these two Asian regional groups is observed in PFM systems of Thailand and Bhutan.

Countries with better cash management systems demonstrate much better predictability and control in budget execution. In the case of Thailand, ministries provide a projection of their quarterly cash requirements and based on the budgetary provisions, the government has the capability to forecast the timing of the bulk of central government expenditure with a high degree of precision. Efficient implementation of cash management system has enabled active cash management in which the size of the Treasury bill issue can be varied flexibly to match fluctuations in cash needs in Thailand. The predictability ensures that the ministries and agencies can rely on the availability of cash at all times to meet payments which are within their overall budget allocations, thereby supporting confidence in the PFM systems.

The PFM systems capability of identifying and capturing commitments is a key feature in the budget execution systems of the countries with better PFM systems on this dimension. This ability to reliably assess the commitments enables in determining the extent of commitments ministries/agencies can make and thus utilise the budget appropriations most efficiently. In Bhutan, the spending units are provided reliable information to plan and commit substantial expenditure several months in advance. The recurrent expenditure budgets are released on a quarterly basis (25% of total recurrent budget) except for Gewogs (2nd-tier of local government) where it is on a half-yearly basis (50% of recurrent budget). Therefore, agencies reliably know how much forward commitment they can afford to make for recurrent expenditures at least for some three months (six months for Gewogs) ahead. However, the releases for capital expenditures are made as and when agencies request for fund releases.

Predictability of budget execution is also assisted when in-year budget adjustments are not too frequent and are also undertaken in an administratively simpler and transparent manner for best utilisation by the spending entities. In Bhutan, the Ministries, Department and Agencies (MDAs) have the full authority to make technical adjustment to their budget (within the approved budget) as per the delegation of Financial Powers. The re-appropriations/supplementary budgets are processed centrally through the MOF and authorised in certain emergency cases and subsequently got ratified by the Parliament. Thus significant adjustment to budget allocations which are decided above the level of management of Ministries, Departments and Agencies are infrequent and transparent.

Again, a general finding where better scores on this budget execution dimension are observed relates to country systems where integrated financial information management systems (IFMIS) have been implemented in the PFM domain. In Thailand, the centralisation of the vast bulk of central government payments through the government-wide IFMIS (GFMIS) which is centrally controlled enables effective budget execution monitoring. Similarly systems supporting integrated systems and facilitating centralised monitoring are also implemented in Bhutan, Indonesia and in Pakistan.

A common feature of both the Thailand and Bhutan PFM systems in this dimension is the availability of complete and reliable domestic and external public debt data. The debt related data is reconciled and debt reports are generated at least quarterly and are used for the preparation of annual budgets and annual financial statements. In Thailand the Public Debt Management Office manages and controls all public debts, domestic and external,

including guaranteed borrowing by the State Owned Enterprises (SOEs). Full details of all public debt, including unguaranteed borrowing by profitable SOEs, are included in reports which are published quarterly. The predictability in budget execution is greatly enhanced by such debt related data.

Controls in budget execution are found to be greatly strengthened in PFM systems with the setting up of a sound employee management/HR system and this observed in both the Thai and Bhutanese systems. In Thailand, the numbers, pay and grading of civil servants and other central government employees have been tightly controlled by the Office of the Civil Service Commission (OCSC) and Bureau of Budget. The budget funding is determined through precise calculations about the number of employees employed at different levels. Furthermore, the personnel and payroll records are linked to ensure data consistency and monthly reconciliation is conducted between the Office of the Civil Service Commission, the respective agency, and the Comptroller General's Department. In Bhutan, while the systems of personnel records and of payroll are maintained separately, any changes in the payroll data are based on the information and records received from the personnel records system. To enable accurate and timely payroll processing through the Budget and Accounting System (BAS), personnel records and payroll are required to be synchronised at least on monthly basis.

Finally, strong internal control rules and procedures facilitate controls in the budget execution process. As observed in Bhutan, these controls consist of a set of rules and regulations for processing and recording transactions specified in the FRR2001 and these are well understood by those directly involved in their application. The Annual audit reports of agencies show that the internal control system is comprehensive and well understood, though irregularities do exist and have been constantly improved upon. The compliance with rules has been found to be very high and use of simplified and emergency procedures has been very minimal or insignificant. All such deviations are revealed in the annual audit reports.

Key findings and recommendations

- Develop and implement a robust cash management system for better predictability and control in budget execution.
- Implement system capability for capturing commitments which can lead to commitment accounting.
- Effect a system for simple and transparent but infrequent in-year budget adjustments for effective utilisations by spending entities.
- Implement integrated financial information management systems (IFMIS).
- Ensure availability of complete and reliable domestic and external public debt data.
- Develop and implement a strong employee management/HR system.
- Effect a stronger internal control mechanism to ensure compliance with rules and procedures.

V. Improving the system for accounting, recording and reporting

The PFM systems relating to Accounting and Reporting are found to be strongest in India, Thailand and Bhutan.

The foremost feature among these countries which supports the quality of accounting and reporting is the strong emphasis on reconciliation of accounts through a formal mechanism which ensures completion of this activity in a time-bound manner. This has been found to be strongest in Thailand and Bhutan – in both countries an IFMIS has been implemented and is utilised for enabling an efficient bank reconciliation process. In Bhutan, all treasury bank accounts are reconciled on a monthly basis within 4 weeks. The individual bank statements are reconciled on a monthly basis with the statements from the Central Accounts Department (CAD) of the Bank's Headquarters and all the Letter of Credit (LC) and Project Letter of Credit (PLC) accounts operated by various budgetary agencies are reconciled within 7 days of accounting month closure.

The capability of PFM systems to capture and make available information on resources transferred from central governments and received by lower tier service delivery units is another important factor contributing to good performance in this dimension. In India, the information on resources transferred and received by primary service delivery units under various centrally sponsored/funded schemes (example primary schools and rural health schemes) are available centrally and also reflected in the consolidated financial reports prepared by the State level agency prepared quarterly. The system also enables making available data related to the utilisation of funds by the lowest level/final beneficiary. The quality of data from lowest level service delivery units is ensured through a system of annual audit by the chartered accountants and the audit reports provide information on resources and their use. Similarly for Bhutan, all front-line service delivery unit like primary schools and primary health clinics fall under the concerned Gewog's (2nd-tier of local government) budget. The Gewog's budgets are broken down into detailed activities and this information is widely available through the budget documents and facilitates timely withdrawal of funds for use by the frontline agencies.

Strong internal controls and accountability frameworks for ensuring timeliness of compilation and issue of accounting reports is also observed for all countries with strength in this PFM dimension. Specific provisions in PFM related acts, regulations and rules are laid down for ensuring timeliness of accounts finalisation and publishing. This is further supported through commitments in the public domain, like conforming to the IMF's Special Data Dissemination Standard (SDDS) by India and Thailand and General Data Dissemination Standard (GDDS) by Bhutan. While the systems are capable for much shorter frequency for accounts compilation, the accounts are formally prepared on a monthly basis and become available before the end of the following month at the website of these countries, without fail. Both in the cases of Thailand and Bhutan, the IFMIS systems provide good information about actual expenditure throughout the year, including functional and economic classifications. Interestingly in Thailand the reports to the Bureau of Budget reflect the cash basis (GFS 1986) of the Budget, while those to the Comptroller General's Department reflect the accrual accounting concepts (GFS 2001).

Another key feature enhancing the PFM systems quality is the adoption of accounting standards in the reporting of statements. In Thailand, the financial statements are based on national accounting standards embodying a modified accruals approach which is broadly consistent with international accounting standards for use in the public sector (IPSAS), with intention to move progressively to full accrual accounting in accordance with IPSAS. India also follows a cash based accounting system closely aligned to the IPSAS cash basis and accounting standards are developed by a Government Accounting Standards Advisory Board and notified by the government. Pursuant to Section 25 of Public Finance Act 2007, the

government of Bhutan has also moved on the adoption of accounting standards. An Accounting and Auditing Standards Board of Bhutan was constituted in 2010 to formulate the Bhutan Accounting Standards (BAS) which are being implemented in phases.

Key findings and recommendations

- Assign special attention to reconciliation of accounts through a formal mechanism which ensures completion of this activity in a time-bound manner.
- Develop and implement systems to track funds transfer to lower tiers of government and service delivery entities and monitor their utilisation.
- Implement strong internal controls and accountability frameworks for ensuring timeliness of compilation and issue of accounting reports. Public commitment to publishing financial data e.g. IMF's SDDS/GDDS.
- Adopt accounting standards in the reporting of statements.

VI. Enhancing the effectiveness of external scrutiny and audit

The better scores for this dimension are observed for the PFM systems of Viet Nam, Bhutan, Afghanistan and Indonesia. These are interesting results since both Viet Nam and Afghanistan have relatively weaker systems in the region for other dimensions. A close at the scores presented in Tables 1 and 2 indicate that there are indeed strengths in the PFM systems for this dimension in both the Afghan and Vietnamese systems as compared to their performance on other dimensions.

A key feature across these countries is that while ensuring its independence the statutory audit has been given an extensive mandate covering all aspects of public funded entities including SOEs and even an unlimited scope for revenue issues as in the case of Indonesia. The State Audit Agency (SAV) in Viet Nam conducts Value for Money audits while the audit office in Bhutan has institutionalised the Department of Performance and Thematic Audits which conducts performance audits, including environmental audits, IT audits and system audits. Further the audit work in most of these countries, as in the case of Viet Nam and Bhutan, conforms to the international public auditing (INTOSAI) standards.

Another important common feature observed is the strict adherence to prescribed timelines for legislative scrutiny of audit reports. In all of these high scoring countries, the audit reports are submitted to the Parliament within three months of receipt of financial/budget execution statements from the government. In Viet Nam, the SAV carries out much of the necessary work, including audit of the budget execution statements of some sub-national governments even before the consolidated budget execution statements are received. The SAV submits its report to the National Assembly in April in time for the discussion of budget execution in the May-June plenary session. In Bhutan, the Public Accounts Committee (PAC) begins review of the annual audit report soon after it is received from the Royal Audit Authority (RAA) in April, and presents its report to the Summer Session, which is convened in May/June. The Public Accounts Committee (PAC) begins review of the audit report soon after it is received from the RAA in April, and presents its report to the Summer Session, which is convened in May/June.

Further strengthening to external scrutiny is observed through adequate legislative scrutiny of the Annual Budget Law which ensures that the legislature's procedures are well

established and respected. For example in Afghanistan, the Lower House, the Budget and Finance Committee carry out the analysis of the budget proposal. These legislative review procedures are comprehensive and are mandated in the Terms of Reference of the Parliament for which 18 specialised committees (as also joint committees) have been established. Furthermore it is observed that country systems (as in Indonesia) provide clear rules for any in-year amendments to the budget (both inter and intra unit budget amendments and reallocations) without *ex ante* approval by legislature and these rules are consistently followed.

Formalisation and effective implementation of the prescribed system and procedures for follow-up of the audit reports is another key systemic feature observed for these countries. In Viet Nam, Article 57 of the State Audit law requires the SAV to organise effective follow-up, to check whether its recommendations are implemented. Article 65(6) of the Audit law puts a duty on audited entities to implement corrective measures recommended by the SAV. Furthermore a directive mandates the keeping track of savings achieved through the SAV recommendations and the Ministry of Finance is mandated to compile a list of SAV recommendations and follow-ups, for inclusion in the annual report to the Government and the National Assembly. In Bhutan, the Royal Audit Authority monitors timely follow-up actions through its IT system, the Audit Information Management System (AIMS) which tracks all pending audit issues. The Bhutanese system adopts a unique system for ensuring accountability and compliance by following up on action taken by concerned officials and to issue or disallow civil servants of Audit Clearance. Such clearance is a mandatory requirement to be obtained for any promotion, training, further studies, for claiming retirement benefits and also for candidates aspiring to be politicians. In Afghanistan, the audit report on the budget execution statement (“Qatia”) are not be accepted by the legislature unless recommendations for correction to the accounts are acted upon.

Key findings and recommendations

- Ensure complete independence of the statutory audit which is assigned extensive mandate covering all aspects of public funded entities including SOEs.
- Enable strict adherence to prescribed timelines for legislative scrutiny of audit reports.
- Enable adequate legislative scrutiny of the Annual Budget Law to ensure that legislature’s procedures are well established and respected.
- Formalise a system for effective implementation of procedures for follow-up of the audit reports.

7. Summary and conclusions

A study for assessing and comparing country PFM systems in two Asian regional groups, viz. the SAARC and ASEAN groups using the PEFA methodology has been done. The regional group’s performance against six PEFA dimensions have been compared against each other and also against global averages. Strengths in PFM dimensions for indicators constituting the dimensions for the regions have also been analysed and specific initiatives leading to the observed strengths in PFM dimension been identified. Key findings and recommendations for countries intending to improve their PFM systems for each aspect of the PFM cycle have also been listed.

It has been observed that there is a general decline in scores as the PFM cycle progresses from budgeting to budget execution, reporting and auditing. This is possibly due to varying importance attached to the stages of PFM cycle. While the budgeting stage probably invokes maximum public and legislature interest, the importance attached to subsequent stages of budget execution and finally audit, wanes. Since systems and controls built into the PFM system are expected to conform to meeting the expectations and demand on them, more emphasis is assigned to the earlier stages. This is accordingly reflected in the PEFA assessment and scores tend to generally show a declining trend as the PFM cycle progresses. However two noteworthy exceptions are the systems in Afghanistan and Viet Nam where external scrutiny and audit dimension performs better than the earlier dimensions of budgeting and budget execution.

At the international level, both the SAARC and ASEAN systems lag with respect to the global averages, except for some strength in dimension relating to external scrutiny and audit. However several countries within the regions are performing much better than global averages owing to various initiatives and systems adopted by them.

At the regional level, while the SAARC PFM systems score marginally better than the ASEAN system, the variation is not significant. The SAARC region has significantly better external scrutiny and audit systems. However its weak areas pertain to select aspects of budgeting and transparency of taxpayer obligations and liabilities and transparency, competition and complaints mechanisms in procurement. The ASEAN region has strengths in oversight of aggregate fiscal risk from other public sector entities, in effectiveness in collection of tax payments and in predictability in the availability of funds for commitment of expenditures. However it has weaknesses pertaining to budgeting system aspects; transparency of taxpayer obligations and liabilities (same as SAARC); effectiveness of measures for taxpayer registration and tax assessment; and in timeliness and regularity of accounts reconciliation.

Among the two regions, Bhutan and Thailand have in general much better PFM systems than other countries. Some of the key system elements based on initiatives taken by the better performing countries in the Asian region are summarised as follows:

- a) Adopting medium-term budgetary framework and sector-wise strategies/development plans.
- b) High level commitment and active engagement of all stakeholders with adequate time in finalising the budget aggregates for expenditure.
- c) Effective commitment monitoring mechanism, control over stock and expenditure arrears, cash management.
- d) Implementing a standardised budget classification system harmonised with all stages of the PFM cycle and a uniform, robust Chart-Of-Accounts across various tiers of government.
- e) Comprehensive budget documentation including details of financial operations of the extra budgetary funds and data relating to external assistance and donor related funding while keeping the scope for unreported government operations in the budget documents to be minimal.
- f) Implementing a robust IFMIS covering all or most PFM cycle stages for effective control, efficiency in process, quality and timely accounting and reporting and transparency in government operations.
- g) Developing system capability for capturing commitments which can lead to commitment accounting.

- h) Effective debt management through the availability of complete and reliable domestic and external public debt data and undertaking debt sustainability analysis to support budgeting.
- i) Establishing a strong employee management/HR system closely integrated with expenditure/payroll systems.
- j) Accounting system enabling fully reconciled accounts and using standards-based reporting system with formal mechanism for ensuring adherence to timelines, like SDDS/GDDS.
- k) Developing system capability to track funds transfer to lower tiers of government and service delivery entities and monitor the funds utilisation.
- l) Establishing strong internal controls and accountability frameworks in ensuring compliance to rules and processes in PFM systems for various stages including compilation, reporting and subsequent follow-up of audit reports.
- m) Ensuring complete independence of the statutory audit assigned extensive mandate covering all aspects of public funded entities including SOEs.
- n) Administering an effective system for legislative scrutiny of audit reports and implementation of procedures to follow-up on the audit reports.

These recommendations covering the major components of PFM cycle can serve as guidance to countries in the region moving on path of PFM system reforms and help them in improving their performance and service delivery.

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The whole elephant: A proposal for integrating cash, accrual, and sustainability-gap accounts

by
Timothy C. Irwin*

Although the budget deficit is much discussed in political debate and economic research, there is no agreement on how it should be measured. There are at least four options, which can be called the cash deficit, the financial deficit, the full-accrual deficit, and the comprehensive deficit. Each is informative, but each has problems of relevance or reliability. Some are more vulnerable to manipulation involving assets and liabilities that are unrecognised in the underlying accounting, others to manipulation involving the mismeasurement of recognised assets and liabilities. Governments should publish all four in a form that reveals their interrelationships.

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1. Introduction

There is an old Indian fable in which a group of blind men are brought to an elephant and asked to describe what they find. Each answers according to the part he can feel. One grasps the trunk and says the object is a snake. Another holds the tail and says it's a rope. A third touches a tusk and says it's a spear. And so on. In a version of the fable told by John Godfrey Saxe, the blind men:

Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong
Though each was partly in the right
And all were in the wrong.

There is a dispute about government accounting that resembles this argument. Cash accounting, still the dominant kind in government, is staunchly defended by some and summarily dismissed by others who prefer accrual accounting. Within the accrual-accounting camp, there is a dispute between those who think that investment in real assets should be counted as spending that increases the deficit and those that think that only depreciation should be counted. Finally there are some economists who consider that all conventional government accounts are simply meaningless and that the only useful measure of the government's fiscal position is a comprehensive one that takes account of the net present value of all the government's future payments and receipts under current policy (sometimes called the *fiscal gap* or *sustainability gap*).

This paper argues that all four kinds of the accounts – which for convenience can be called cash, financial, full-accrual, and comprehensive – are informative, but that none gives a full picture of the fiscal elephant. It shows, moreover, that each is susceptible to different kinds of manipulation. The solution to the dispute, the paper argues, is for governments – or at least those in advanced economies – to produce four sets of accounts, each with its own set of deficits.

This may seem crazy. Four sets of accounts and four separate deficits? In fact, the proposal is even more extreme than this: it is to present two deficits from each set of accounts, giving eight in total – and this is without thinking about adjustments for inflation or the state of the economic cycle or different measures for different definitions of government.

Yet the idea is mostly unoriginal. Modern accounting standards require governments to produce both an accrual income statement and a cash-flow statement, and more than one surplus measure can be derived from each of these statements. The New Zealand government mentions three deficits in the press releases that accompany the publication of its monthly accounts: a cash deficit, a bottom-line accrual deficit, and an accrual deficit that excludes capital gains and losses. The IMF's *Government Finance Statistics Manual 2014* recommends that governments produce both a cash-flow statement and an accrual-based operating statement that generates a measure of the deficit that treats net investment in real assets as spending and another measure that does not. Although very few countries

produce all the information suggested by this manual, the Australian Bureau of Statistics produces government-finance statistics that include three of the four sets of accounts suggested here – each for several different definitions of government. What this paper proposes adding is a set of measures drawn from comprehensive accounts.

The paper does not assume that the average politician or voter wants to examine multiple measures of the deficit. It is fiscal analysts that should be interested. Yet the analysts' task should not be made more difficult than it has to be: analysts should not have to compare deficits that are difficult or impossible to reconcile. This paper shows how the four sets of accounts discussed here can be derived from a single accounting framework and how summary measures from the four accounts can be presented in a simple table – a kind of fiscal dashboard – with two other tables to reconcile the four accounts.

Even so, multiple measures of the deficit might sow confusion, allowing governments to claim they had met their fiscal promises by pointing to the measure that happened to prove them right. To avoid such problems, governments setting deficit targets must be required to explain which measure they are talking about. Public debate can then be expected to focus on this measure. Yet the existence of the other measures will still be useful, since, among other things, they will help analysts tell whether success in meeting the target reflects a broader improvement in public finances or only the use of accounting stratagems that improve the targeted measure without fundamentally changing public finances.

2. Accounting systems

It is useful to start by abstracting from some of the real-world variation in government accounting and isolating the fundamental differences between cash, accrual, and other accounting systems.

To do this, we first define accounting systems according to the assets and liabilities that they recognise, where to recognise an asset or liability means to record it on the face of the balance sheet. Cash accounts, for instance, can be thought of as recognising only one asset, namely cash, while accrual accounts add other financial assets and liabilities, such as accounts payable and receivable. In one version of accrual accounting, which might be called *full-accrual accounting*, nonfinancial assets such as land and buildings are also recognised.

Each accounting system therefore generates its own measure of the government's net assets, where net assets are the sum of the government's assets less the sum of its liabilities.

The *clean surplus* is defined as the increase in net assets. It follows immediately that each accounting system generates its own clean surplus.

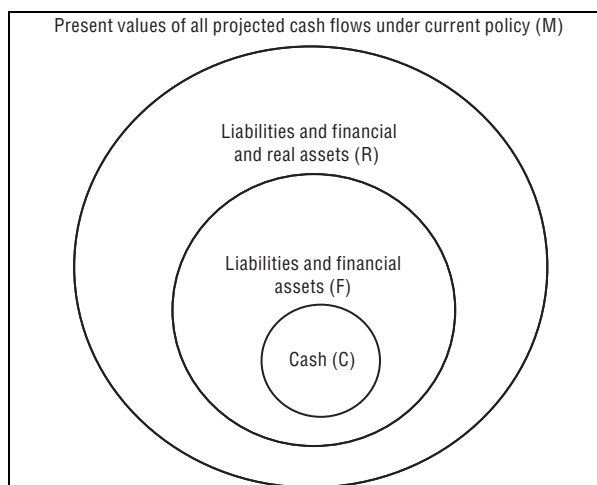
Although dirty surpluses – that is, those that are not equal to the increase in net assets – can be defined in any number of ways, each accounting system also tends to be associated with certain dirty surpluses. In cash accounts, changes in cash are classified according to whether they relate to operations, investments, or financing and the (dirty) cash surplus is taken to be either the sum of operating cash flows or the sum of both operating and investing cash flows. In financial and full-accrual accounts, changes in net assets are sometimes classified according to whether they arise from transactions or whether they arise from other changes such as capital gains and losses, and the dirty surplus on transactions is what gets attention. Because these surpluses are not affected by capital gains and losses, they tend to be less volatile and more easily controlled by the government. Despite the disparaging name, dirty surpluses can be very useful.

In principle, there are as many kinds of accounts as there are possible combinations of assets and liabilities. Four are worth examining.¹

- *Cash accounts (C)*, which in their pure form recognise cash as an asset (and its negative, an overdraft, as a liability) but recognise no other assets or liabilities.
- *Financial accounts (F)*, which recognise all financial assets, as well as the corresponding liabilities.
- *Full-accrual accounts (R)*, which recognise all the assets and liabilities of financial accounts and also nonfinancial assets.
- *Comprehensive accounts (M)*, which recognise all the assets and liabilities of full-accrual accounting and also assets and liabilities associated with the government's projected future spending and revenue.

Figure 1 shows the sets of assets and liabilities associated with each of these systems. What is crucial is that the sets are nested, so that the smaller ones are subsets of the larger ones. This makes reconciling the different accounts simple. Ensuring that the different accounts are based on nested sets of assets and liabilities can, however, be tricky. In particular, in preparing comprehensive accounts, care needs to be taken to avoid double counting assets and liabilities that are already included in smaller sets. For example, if the full-accrual accounts recognise an asset, the long-term projections that underlie the comprehensive accounts should not include the cash flows generated by that asset.

Figure 1. **Assets and liabilities of four accounting systems**



Source: Irwin (2012).

The different accounts provide different kinds of information about public finances. Cash accounts show changes in a crucial asset and by classifying cash flows – for example, as relating to operations, investment, or financing – offer an insight into broader fiscal developments. By recognising a progressively wider range of assets and liabilities, financial and full-accrual accounting provide clearer evidence of these developments. Finally, comprehensive accounts, by taking accounting of the expected effects of the government's tax and spending policies, offer an even broader perspective.

The different accounts are also subject to different kinds of manipulation. The first kind of manipulation can be analysed as the substitution of recognised for unrecognised net assets

(Irwin, 2012). Delaying the payment of a bill and keeping more cash in the bank reduces the cash deficit, because the government records the cash but not the accounts payable on its balance sheet. Similarly, selling land and using the proceeds to repay debt reduces the financial deficit because the debt but not the land was recorded on the balance sheet.

Preventing this kind of manipulation is a matter of putting more assets and liabilities on the government's balance sheet. If accounts payable are recognised, delaying the payment of bills does not reduce spending. If real assets are recognised, selling them generates no revenue. Because comprehensive accounts recognise all possible assets and liabilities, they are not susceptible to this kind of manipulation.

Assets and liabilities may, however, be mismeasured: that is, they may be recognised on the balance sheet at an incorrect value. This creates new problems.² If an asset or a liability is recognised at less than its true (market) value, a lesser version of the problem just discussed arises. For example, if the liabilities related to employee pensions are recognised but measured at less than their true value, the government's deficit will tend to be underreported. But if an asset or liability is measured at more than its true value, a different kind of manipulation can occur. For instance, the financial deficit can be temporarily reduced by overvaluing accounts receivables and therefore overestimating revenue. Some deficits can also be manipulated by changing the extent of mismeasurement over time. The clean comprehensive deficit, for instance, can be reduced by increasing the discount rate used to value future spending.

The existence of two kinds of manipulation creates a tradeoff. Opportunities for manipulation involving unrecognised assets and liabilities can be reduced by recognising a wider variety of assets and liabilities. But this means that there are more assets and liabilities that can be mismeasured. Moreover, the newly recognised assets and liabilities tend to be increasingly difficult to measure. The gains from preventing one kind of device must therefore be traded off against the gains from preventing the other. The tradeoff can be reduced by limiting the scope for mismeasurement through the use of accounting standards, independent auditors, independent statistical agencies, independent forecasters, and so on, but it probably cannot be eliminated.³

2.1. Cash accounts

In pure cash accounts, the net-assets measure is just the cash balance, and the clean deficit is just the reduction in the government's cash balance. When a government is struggling to pay its bills, the clean cash deficit is of great interest, especially if recorded at high frequency. At other times, it is not especially significant. It is never the most prominent measure of the deficit. From an analytical perspective, however, the clean cash deficit is worth examining. Because anything that increases the government's bank balance reduces the deficit, it is especially easy to manipulate.⁴ Delaying payments and accelerating receipts both reduce the deficit. So does selling any kind of asset (other than cash). And so too does borrowing (except by overdraft), since cash accounting in its pure form makes no distinction between receipts from different sources. Curiously, borrowing reduces some actually used cash deficits (Blejer and Cheasty, 1991a:1645; Granof and Khumawala, 2011:310).

At the same time, the clean cash deficit can be measured with little uncertainty because all it depends on is the amount of cash held by the government. In practice, the definition of cash is not completely straightforward. Accountants typically add together cash and cash equivalents, which are short-term investments convertible to cash with

negligible uncertainty. Naturally, there are some problems in identifying and measuring cash equivalents. Yet these problems are nothing like those associated with broader accounting systems.

Because of the limitations of the clean cash deficit, governments that use cash accounting, and analysts who work with cash data, usually monitor dirty deficits. For example, a line is often drawn between financial and other transactions. Financial transactions such as borrowing and the repayment of debt are recorded below the line and do not affect the deficit. The sale of real assets might also be treated as below the line, especially if the amounts are large and unusual. In other cases, operating cash flows are distinguished from investing cash flows, and a deficit that takes account only of operating cash flows is monitored. Such a deficit is sometimes called the *current deficit*.

The effect of these classifications is to bring cash accounting closer to accounting systems that recognise a wider range of assets and liabilities, including in particular financial and full-accrual accounting. The resulting dirty deficits are less vulnerable to manipulation by means of transactions in unrecognised assets and liabilities. The cost, however, is greater vulnerability to measurement problems, because dirty cash deficits depend not only on changes in the government's cash balances but on how these changes are classified.

These adjustments to cash accounting are often less than wholly satisfactory. Large sales of real assets in a privatisation programme may be put below the line, while acquisitions and smaller sales remain above it. Borrowing by issuing bonds is easily identified and thus put below the line; borrowing by purchasing supplies on credit, accumulating arrears, issuing guarantees, and entering into long-term leases and public-private partnerships is not. Thus even above-the-line cash deficits usually remain very susceptible to fiscal tricks that change the time at which cash is transferred (e.g., Easterly, 1999).

Nevertheless, recording cash flows and classifying them according to whether they relate to operating, investing, or financing activities is surely useful. It makes it possible to track the government's liquidity and therefore its ability to meet its commitments in the short term. Cash accounts also help identify fiscal tricks designed to reduce a financial or full-accrual deficit by mismeasuring the assets and liabilities recognised in those accounting systems. If a government reduces an accrual deficit by overestimating the collectability of taxes, for instance, a difference between accrued tax revenues and cash tax receipts is likely to arise, which should arouse suspicions if it cannot be explained.

If the use of various dirty cash deficits can be thought of as attempts to approximate financial or full-accrual accounts, another modification of cash accounting moves it in the direction of comprehensive accounts: namely, not only recording past deficits but also forecasting future deficits. Manipulations that reduce the cash deficit in one year will show up in accurate forecasts of future deficits, so if the forecasts have a sufficiently long horizon they reveal everything. (In the long run, all that matters is cash.) Indeed, if the horizon is very long, they essentially generate comprehensive accounting: all that is needed is to produce a comprehensive balance sheet by estimating the present values of the projected classes of spending and revenue.

2.2. Financial accounts

An increasingly prominent alternative to cash accounts is a form of accrual accounts (called here financial) in which transactions are generally recorded when value is deemed

to be created, consumed, or transferred, but in which nonfinancial assets are not recognised and in which, therefore, real investment counts as spending that increases the deficit. It is the basis of the fiscal statistics that are used to measure compliance with the European Union's fiscal rules and (where the data are available) much of the IMF's fiscal analysis.

The argument for using financial instead of cash accounts turns on the problems of cash accounts. Recording transactions when economic value is created, consumed, or transferred seems more useful than recording them when cash changes hand. Likewise, it seems useful to produce balance sheets that include more than just cash, and to link them arithmetically to the government's operating statements.

The argument for using financial instead of full-accrual accounts turns on the unusual nature of many of the real assets owned by governments (e.g., Icelandic Ministry of Finance, 1995:21-22). Unlike the machines and factories owned by firms, the roads, parks, museums, and courthouses owned by governments frequently generate no cash. This makes their fiscal value unclear and introduces new problems of measurement: what is the value of an asset that generates no cash? If a government were to get into financial difficulty, it could sell its financial assets, or at least some of them. Would the same be true of its real assets?

In financial accounts, the clean financial deficit is the decline in net financial worth. Useful in itself, this deficit can be decomposed into two components. One is the deficit on transactions, which in fiscal statistics is called *net lending/net borrowing*. This is, roughly speaking, the measure that is used to test compliance with the European Union's deficit rules. The second component of the clean deficit, other changes in net financial worth, arises mainly because of changes in the values of financial assets and liabilities that occur as interest rates, exchange rates, and other market prices fluctuate.

The financial deficit (clean or dirty) is immune to many devices that affect the cash deficit. Delaying the payment of a bill has no effect on it. But because the financial deficit does not recognise real assets, it can be reduced by selling land and buildings. It can also be affected by seemingly insignificant changes in the packaging of transactions. Purchasing land increases the deficit; purchasing all the shares in a company that owns the land, and nothing else, does not.

Unlike cash accounts, financial accounts require estimates of the value of the government's equity stakes, derivative positions, tax receivables, and so on. It is therefore vulnerable to manipulation by mismeasurement. For example, a government might understate its deficit by treating a transfer to a state-owned enterprise as the purchase of shares in the enterprise that are worth as much as the government has paid for them. The equity injections constitute the purchase of a financial asset, so do not increase the government's financial deficit. Yet the state-owned enterprise might be losing money and the government's investment made at an expected loss. If the government's investment were properly valued, its net financial worth would have declined, but the investment may not be properly valued. Accounting rules can mitigate, but probably not eliminate, these problems.

2.3. Full-accrual accounts

Many governments in advanced economies now also produce full-accrual measures of the deficit, at least in their end-of-year financial statements. The argument for recognising nonfinancial as well as financial assets is that even when they do not generate cash inflows the government's nonfinancial assets tend to have lasting fiscal value. In particular, they reduce the required future cash outflows of providing government services. For instance, if

governments that provide schooling did not own schools, they would have to build, buy, or lease them, increasing their future cash outflows.⁵

The clean full-accrual deficit is the decline in net worth. This deficit can be broken down in different ways. In fiscal statistics, it is split into a part (the *net operating balance*) that reflects changes in net worth resulting from transactions and a part equal to other changes, such as those arising from holding gains and losses.

Because full-accrual accounting recognises real as well as financial assets, its deficit cannot be reduced by the sale of those assets. Nor is it affected by whether the purchase of the assets happens directly or through the veil of a company owning the assets. Yet even full-accrual accounting as practiced does not recognise all the assets and liabilities that might be recognised, and it is vulnerable to accounting devices involving these assets and liabilities. Finance (capital) leases create assets and liabilities for the lessee, but operating leases, which differ from finance leases only in degree, may not. Similarly, rights and obligations that generate payments only in certain circumstances are sometimes recognised, but often not. As a result, governments can sometimes reduce their reported deficits and debts by issuing guarantees instead of subsidising loans; they may also charge guarantee fees, further reducing the reported deficit.

At the same time, real assets are hard to value, so full-accrual accounting creates new opportunities for mismeasurement. In practice, non-cash-generating real government assets are often valued at an estimate of their depreciated historic or replacement cost, with a possible adjustment for gold-plating. The adjustment (impairment in accounting jargon) takes into account that real assets may be over-dimensioned, capable of producing a higher volume or quality of service that the government plans to provide. This means that real investments are not necessarily deficit neutral (even apart from ordinary depreciation), but the complexities of estimating replacement cost, depreciation, and impairment certainly create additional uncertainties in the estimation of the deficit.

2.4. Comprehensive accounts

Over time, the rules for accrual accounting may be revised so that they require recognition of more assets and liabilities. Operating leases and a wider range of guarantees, for instance, may be put on the government's balance sheet. Yet it will probably never be possible to draw a satisfactory line between the rights and obligations that are, and are not, firm enough to constitute assets and liabilities under definitions roughly similar to the ones used in modern standards. For example, governments may always be able to reduce this year's deficit by increasing taxes while simultaneously promising to increase future social spending.

These concerns have led to the claim that traditional measures of the deficit are meaningless (Kotlikoff, 1986). The criticism has been leveled at the mainly cash-based US budget deficit, but it also applies to the financial and full-accrual deficits described here. The idea is that there is no economically meaningful way to differentiate taxes, say, from the proceeds of borrowing and, likewise, no way to differentiate the repayment of borrowing from the payment of social-security benefits or even defense spending. There are just payments made and received at different dates. The labels given to the payments and receipts make no difference. As a result, it is claimed, conventional measures of the deficit and debt, and many other fiscal indicators besides, are entirely arbitrary.

This seems an exaggeration. The argument is most persuasive when applied to social security in the United States, where employees pay earmarked social-security taxes during

their working lives and later receive social-security benefits whose amount depends on the prior contributions. As a result, it is easy to see the similarity between borrowing and collecting social-security taxes and between repaying borrowing and paying social-security benefits. Less persuasive, however, is the claim that there is no economically meaningful distinction between the repayment of debt and ordinary, discretionary spending (Irwin, forthcoming).

Nevertheless, accounting that ignores projected future spending and taxes misses a great deal. In such systems, a government may have positive net assets, yet be in serious financial trouble, unable to sustain its current policies. Likewise, a government with negative net assets may be financially strong and have no difficulty sustaining its policies. Further, some of the distinctions made in narrower systems between assets and other rights and between liabilities and other obligations are rather fine. Pensions for government employees may create liabilities, for instance, while public pensions for ordinary citizens do not. True, there is usually a difference between the two cases. Where employee pensions create liabilities, there is typically an employment contract that imposes a binding legal obligation on the government. Public pensions, on the other hand, are usually provided for by a law that may create an expectation of payment, but which may be amended. Yet if the law has strong political support, its repeal or amendment may be extremely unlikely and the obligation may, for practical purposes, be as binding as a contract.

This creates a strong case for accounting in which the net-assets measure is comprehensive net worth, which includes the net present value of all future payments and receipts under current policy (Buiter, 1983). The corresponding clean deficit is the decline in comprehensive net worth. Under narrower accounting standards, all assets and liabilities are associated with expected future cash flows,⁶ and those assets and liabilities can be valued at the present value of the associated cash flows. But in narrower accounting systems, not all future cash flows are associated with assets and liabilities. The characteristic feature of comprehensive accounting is that all future cash flows are associated with assets and liabilities. Thus its set of assets and liabilities is the universal set *M* in Figure 1 (above). As in other accounting systems, this deficit can be split into parts. A natural option is to distinguish the part related to transactions and policy changes from the part related to changes in discount rates and assumptions about demographics and economic growth.

No government treats the comprehensive deficit as its main measure of the deficit. Many governments in advanced economies, however, now publish long-term fiscal projections that contain most of the information in comprehensive accounts. What is missing – apart from integration with the rest of the accounts – is the calculation of present values.

Moreover, following FASAB (2009), the US government now includes in its annual financial statements estimates of the present values of future taxes and spending, as Table 1 illustrates. It shows the net present values of the government's projected receipts and primary spending over the next 75 years as percentages of the present values of GDP over the same time period. The numbers are large: in 2013, the present value of projected receipts was more than USD 200 trillion, but the present value of projected GDP was USD 1 quadrillion. The top row of the table shows the gap between projected receipts and primary spending: it shows the amount by which taxes have to be permanently raised or

spending permanently cut to keep the government's debt constant. The changes from year to year reflect changes in policy and other assumptions. For example, the decline from -0.7 to -1.7 percent of 75-year GDP was

... primarily due to the changes in model technical assumptions, such as (i) the inclusion of cost for health insurance exchange subsidies, (ii) the assumption in this year's Report that all of the 2001/2003 tax cuts will be extended indefinitely, rather than being allowed to expire for high income taxpayers, and (iii) an improved methodology for projecting Medicare costs (US Treasury, 2012:157).

By contrast, the improvement between 2012 and 2013 came partly from a reassessment of the effects of the Affordable Care Act: the 2013 projections assume that the Act will slow the growth of spending on Medicare and Medicaid by more than had been assumed in the previous year's projections. In addition, the Treasury estimates that the American Taxpayer Relief Act 2013 will increase tax revenue relative to the previous year's projections, partly because it established that the abovementioned tax cuts will expire for high-income taxpayers (US Treasury, 2013).

Table 1. Summary of long-term fiscal projections of US Government
(Percent of present value of 75-year GDP)

	2010	2011	2012	2013
Receipts less primary spending	-1.9	-0.7	-1.7	-0.4
Receipts	20.2	20.3	19.7	19.8
Social Security payroll taxes	4.4	4.4	4.3	4.2
Medicare payroll taxes	1.4	1.5	1.5	1.4
Individual income taxes	10.5	10.5	10.0	10.4
Other receipts	4.0	3.9	3.9	3.8
Primary spending	22.1	21.0	21.4	20.2
Defense discretionary	3.6	3.2	3.1	2.1
Nondefense discretionary	3.5	1.7	1.7	2.5
Social Security	5.7	5.8	5.9	5.7
Medicare Part A	2.0	2.0	2.2	2.2
Medicare Parts B and D	2.4	2.4	2.4	2.2
Medicaid	2.8	2.7	2.7	2.3
Other mandatory	2.2	3.2	3.4	3.1

Source: US Treasury (2011, 2012, 2013).

Comprehensive accounts are of course extremely vulnerable to manipulation by mismeasurement. Calculating the present value of future taxes and spending under current policy requires specifying current policy, forecasting demographic and economic variables over the very long term, projecting the payments and receipts that will occur given these projections, and finally choosing discount rates⁷ for converting the projected payments into present values. At each of these steps, opportunities arise for small adjustments that have large effects on the results. Even in the absence of manipulation, the results are likely to be extremely imprecise.

The idea behind comprehensive accounts, however, is that having a very imprecise estimate is better than having no estimate at all. It is the idea behind the maxim about being approximately right instead of precisely wrong and the joke about the drunk who looked for his keys under the lamppost because that was where the light was best. While there is a risk that comprehensive accounts will mislead, there is a similar risk in not

presenting them. If a government produces only the balance sheet of financial or full-accrual accounting, it may overestimate the importance of that balance sheet, while paying too little attention to more important fiscal issues.

Moreover, the scope for manipulation can be reduced by producing comprehensive accounts according to standards (see FASAB, 2009; NZICA, 2005). The models that are used to produce them can be made public, so that others can replicate and, if they wish, modify the accounts.⁸ And the forecasts can be checked or produced by official agencies that are independent of the government (see UK Office for Budget Responsibility, 2013).

3. The whole elephant

Sometimes a single measure of the government's deficit needs to be selected, as for example in the design of a simple fiscal rule. If the government sets itself a target for the deficit, it must specify in advance a particular measure of the deficit. There is no reason, however, not to present all four deficits, along with corresponding balance sheets and other tables for each of the four accounting systems. They can be presented, moreover, in a way that makes clear their relationships. These *four-part* accounts, as they might be called, would not prevent the manipulation of a single deficit measure, but they would help reveal such devices and give an overview of public finances in the round.

Table 2 shows a possible summary of four-part accounts. It reveals opening and closing balances for each of four versions of net assets – cash, net financial worth, net worth, and comprehensive net worth – the main dirty surplus associated with each of these indicators and the other changes that make up the clean surplus.

Table 2. **Four-part accounts**

Opening value			Components of clean surplus			Closing value	
C	Opening cash	+	Net cash inflows from operating and investing activities	+	Net cash inflows from financing activities and valuation changes	=	Closing cash
F	Opening net financial worth	+	Net lending//net borrowing	+	Other changes in net financial worth	=	Closing net financial worth
R	Opening net worth	+	Net operating balance	+	Other changes in net worth	=	Closing net worth
M	Opening comprehensive net worth	+	Change in comprehensive net worth caused by transactions and policy changes	+	Other changes in comprehensive net worth	=	Closing comprehensive net worth

Source: Author.

Underlying this table would be more detailed tables for each set of accounts, such as:

- A cash-flow statement of the kind familiar to accountants and recommended in IMF (2014, Table 4.2).
- Statements that provided underlying financial and full-accrual data, such as the statement of operations and the statement of other economic flows, the balance sheet, and detailed tables of revenue and spending (e.g., IMF, 2014, Tables 4.1, 4.3-4.5, 5.1, and 6.1).
- A summary of the present values of the lines of long-term fiscal projections such as in Table 1 above, as well as the projections themselves, or a finite subset of them if they have an infinite horizon.

3.1. Reconciling the accounts

Other tables would clarify the interrelationships between different lines of the summary accounts. Some such clarifications are given in existing statistics and accounting disclosures. In statistics, the statement of operations shows how the net operating balance relates to net lending/net borrowing (IMF, 2014, Table 4.1). In accounting, net cash flows from operations (the current cash surplus) are reconciled with a full-accrual balance (e.g., Government of New Zealand, 2013).

In four-part accounts, two relatively simple tables could show the major links between the different deficits. One would show how each clean surplus was made up of components related to accounts based on narrower sets of assets or liabilities. The other would link the four dirty deficits of Table 2.

Because the clean surpluses arise from increasingly broad sets of assets and liabilities, it is easy to show how the clean financial, full-accrual, and comprehensive surpluses are made up of components from the narrower accounts. The clean full-accrual surplus, for instance, is equal to the clean financial surplus plus the increase in the government's real assets. Table 3 shows how each of the clean surpluses other than the first (cash) can be decomposed into contributions from accounts based on subsets, in a triangular pattern.

Table 3. **Composition of clean surpluses**

Clean surplus			Incremental contributions from narrower accounts						
			<i>C</i>		<i>F</i>		<i>R</i>		<i>M</i>
<i>C</i>	Cash	=	Increase in cash						
<i>F</i>	Financial	=	Increase in cash	+	Increase in noncash net financial worth				
<i>R</i>	Full Accrual	=	Increase in cash	+	Increase in noncash net financial worth	+	Increase in real assets		
<i>M</i>	Comprehensive	=	Increase in cash	+	Increase in noncash net financial worth	+	Increase in real assets	+	Increase in comprehensive net worth excluded from net worth.

Source: Author.

The dirty surpluses of Table 2 could be reconciled with each other in various ways. Box 1 gives an example.

Box 1. Reconciling dirty surpluses

The following is one recipe for reconciling the four dirty surpluses of Table 2.

Start with the dirty cash surplus.

Add the differences between accrual and cash measures of revenue and spending:

Add the difference between (accrual) revenue and (cash) receipts from operations

Subtract the difference between (accrual) expense and (cash) payments for operations

Subtract the difference between accrual acquisitions of real assets net of disposals and net cash flows used in investment

To get net lending/net borrowing.

Then take out transactions in real assets that affect net lending/net borrowing, but not the net operating balance:

Box 1. Reconciling dirty surpluses (cont.)

Add acquisitions less disposals of real assets

Subtract the depreciation of real assets

To get the net operating balance.

Finally, add the effects of changes in tax and spending policies:

Add the net present value of changes in future receipts and payments that are caused by policy changes and are not already incorporated in recognised assets and liabilities

To get the dirty comprehensive surplus.

3.2. Illustrations

No government produces all the fiscal information needed to illustrate internally consistent four-part accounts, but it is possible to present three of the four parts for at least two governments. First, the Australian Bureau of Statistics produces comprehensive government-finance statistics that can be rearranged to present accounts for rows C, F, and R, and the associated reconciliations. Second, the US federal government's financial reports present information that allows approximations of rows C, R, and M.

Table 4 presents summary three-part accounts for general government in Australia for the 2012/13 fiscal year. The meanings of the numbers in Table 4 are those given by the first three rows of Table 2.

Table 4. Summary three-part accounts for Australian general government, 2012/13
(Percent of 2012/13 GDP)

	Values June 30, 2012		Dirty surplus 2012/13		Other changes 2012/13		Values June 30, 2013
<i>C</i>	2.0	+	-2.4	+	2.5	=	2.1
<i>F</i>	-18.8	+	-2.5	+	7.1	=	-14.2
<i>R</i>	47.4	+	-1.4	+	8.7	=	54.8

Note: GDP is average for 2012 and 2013.

Source: Australian Bureau of Statistics (2014) and other information available at www.abs.gov.au/ausstats/abs@.nsf/mf/5512.0 and, for GDP, the IMF's World Economic Outlook database for April 2014.

To see what Table 4 tells us, we can look first at each line individually.

- The cash accounts (row C) show first that general government held cash amounting to roughly 2% of GDP at the beginning and end of the year. The clean cash surplus was thus close to zero. The dirty cash surplus, however, defined here as the sum of net operating and investing cash flows, was -2.4% of GDP. Examination of the cash-flow statement reveals that this deficit came entirely from investment: net cash flows from operations were slightly positive. Thus, general government's operations would have complied with a cash-based version of the golden rule, which says that governments should borrow only to invest.
- The financial accounts (row F) show that general government began the year with net financial worth of about -19% of GDP. During the year, the dirty financial surplus (net lending/net borrowing) was -2.5% of GDP. Net financial worth actually increased, however,

by 4.6% of GDP, because the decline caused by transactions was outweighed by holding gains and losses in general government's assets and liabilities. The largest of these was a reduction in the estimated unfunded liability for government-employee pensions.

- The full-accrual accounts (row R) show that general government's net worth, including real assets was 47% of GDP at the beginning of the year. Transactions caused net worth to decline by 1.4% of GDP, but net worth increased during the year, mainly because of the abovementioned increase in net financial worth, but also because of upward revaluations of some real assets.

Table 5 shows how the clean full-accrual surplus is made up of components from narrower accounts. The total increase in net worth of 7.4% of GDP was made up of a minor increase in cash (0.1% of GDP) and large increases in both financial net worth other than cash (4.5% of GDP) and the value of net worth other than financial net worth – that is, the value of real assets (2.8% of GDP).

Table 5. Components of the clean full-accrual surpluses of Table 4
(Percent of 2012/13 GDP)

Clean surplus				Incremental contributions				
				<i>C</i>		<i>F</i>		<i>R</i>
<i>R</i>	Full-accrual surplus	7.4	=	0.1	+	4.5	+	2.8

Source: Australian Bureau of Statistics (2014) and other information available at www.abs.gov.au/ausstats/abs@.nsf/mf/5512.0 and, for GDP, the IMF's *World Economic Outlook* database for April 2014.

Table 6 reconciles the three dirty surpluses following the recipe of Box 1. The first step in the reconciliation shows that although the dirty cash and financial deficits differ by only 0.1 percent of GDP this is not because their components are almost identical. The respective measures of revenue differ by 0.7 percent of GDP, but this is offset by differences in the respective measures of operating and investment spending. The second step shows that the difference of 1.1 percent of GDP between net lending/net borrowing and the net operating balance was made up of 2.8 percent of GDP in investment in real assets (net of disposals) less 1.7 percent of GDP in depreciation.

Table 6. Reconciliation of the dirty surpluses of Table 4
(Percent of 2012/13 GDP)

Start with the cash surplus	-2.4
Make cash-to-accrual adjustments	
Add revenue less receipts from operations	+ 0.7
Subtract expense less cash payments for operations	- 0.7
Add acquisitions net of disposals less net cash flows for investment	- 0.2
To get net lending/net borrowing	= -2.5
Then take account of transactions in real assets	
Add acquisitions of real assets minus disposals thereof	+ 2.8
Subtract depreciation of real assets	- 1.7
To get the net operating balance	= -1.4

Source: Australian Bureau of Statistics (2014) and other information available at www.abs.gov.au/ausstats/abs@.nsf/mf/5512.0 and, for GDP, the IMF's *World Economic Outlook* database for April 2014.

The three-part accounts of tables 4, 5, and 6 – and the underlying tables produced by the Australian Bureau of Statistics – provide a much richer picture of the finances of

Australian general government than would be available from a single measure of the deficit. Indeed, the ABS actually produces at least 24 measures of the government deficit: the three clean and three dirty surpluses can be calculated for four different definitions of the government: central government, general government, the nonfinancial public sector, and the public sector. Because they come from a single coherent accounting framework, however, this profusion of deficits is not confusing: it is reasonably easy to work out how the deficits relate to each other.

We are still missing information on the expected sustainability of tax and spending policies. The Australian government does publish long-term fiscal projections, but it does not update them annually, so we cannot use them to calculate comprehensive accounts on an annual basis.

To get annual comprehensive accounts, we can turn to the financial report of the US federal government. With the help of some simplifying assumptions, this allows us to produce summary comprehensive accounts, as well as near-cash and full-accrual accounts. (The US government's financial reports follow their own accounting standards, not the concepts of government-finance statistics, so the definitions of the cash and full-accrual deficits are not exactly the same as those set out above.)

Table 7 shows the accounts. In contrast to Table 4, it gives three balance dates and two intervening years. The cash deficit is proxied by the US budget deficit, which is customarily described as being mainly cash based, but which includes some noncash items. The full-accrual deficit is a measure called in the accounts the net operating cost, which is essentially clean: there are no other significant changes in net worth. Finally, the comprehensive accounts are derived by adding to net worth the net present value of the projections shown in Table 1.⁹ For comparability, they are presented as percentages of 2012 GDP. The dirty comprehensive surplus is the negative of the net operating cost plus the change in the net present value of future revenue and spending that arises from changes in law.

Table 7. **Summary accounts for the US federal government, 2011-13**
(Percent of 2012 GDP)

	Values September 2011		Dirty surplus 2011/12		Other changes 2011/12		Values September 2012		Dirty surplus 2012/13		Other changes 2012/13		Values September 2013
<i>C</i>	1.1	+	-6.7	+	6.9	=	1.3	+	-4.2	+	4.2	=	1.3
<i>R</i>	-91.0	+	-8.1	+	0.0	=	-99.1	+	-5.0	+	0.0	=	-104.1
<i>M</i>	-130.4	+	-8.1	+	-62.2	=	-200.7	+	25.2	+	46.8	=	-128.7

Note: Cash is taken from the balance sheet, while the cash deficit is taken to be the unified budget deficit. Net worth is the “total net position” on the balance sheet, and the full-accrual deficit is taken to be the net operating cost. Comprehensive net worth is taken to be the sum of net worth and the net present value of the 75-year projections of primary spending and revenue shown in unaudited supplementary information in the report. The comprehensive deficit is the sum of net operating cost and the change in the net present value of the projections due to enacted legislation. GDP is for 2012.

Source: US Treasury (2012, 2013) and, for GDP, the IMF's *World Economic Outlook* database for April 2014.

What do these accounts show?

- The mainly cash accounts (row C) show that the budget deficit declined from about 7% of GDP in 2011/12 to 4% of GDP in 2012/13. These deficits were financed by borrowing, so the government's cash balance was about 1% of GDP at all three balance dates.
- The full-accrual accounts (row R) show deficits roughly 1% of GDP larger than the budget deficits. These deficits caused the government's net worth to decline over the two years

from -91 to -104% of 2012 GDP. Although the differences between the budget deficit and net operating cost have many causes, the main one is the cost of pensions and veterans' benefits (US Treasury, 2013:7). Although the differences between cash and accrual deficits are essentially differences of timing that will eventually cancel out, they can persist for many years: the accrual deficit has exceeded the cash deficit in 17 of the last 19 years.¹⁰

- The comprehensive accounts (row M) show that comprehensive net worth was volatile, beginning and ending the two-year period at about -130% of GDP, but falling to roughly -200% in between – mainly for the reasons discussed above in relation to Table 1.

The three-part accounts for the US federal government again paint a richer picture of the changes in public finances than a single deficit could. On the one hand, the full-accrual surplus reveals the significant costs of civil-service pensions and veterans benefits that are not reflected in budget numbers. On the other, the comprehensive accounts shows that legislation that may have no immediate effect on either the cash or full-accrual surplus can have large effects on public finances.

4. Conclusion

To sum up, different deficit measures provide different kinds of information. They are also vulnerable to different kinds of manipulation. One kind of manipulation increases recognised net assets at the expense of unrecognised net assets. This can be combated by recognising a broader range of assets and liabilities, for example by moving from cash accounting to financial accounting to full-accrual accounting. Preventing all such devices, however, requires an accounting system that recognises assets and liabilities in relation to all projected future cash flows. Yet this progression creates more and more opportunities for a second kind of manipulation that works by mismeasuring assets or liabilities. Thus there is a tradeoff, and no accounting system can simultaneously prevent both kinds of manipulation.

Part of the appropriate response to this problem is to limit mismeasurement by making use of carefully designed accounting standards; independent auditors, statistical agencies, and fiscal councils; and the publication of detailed data that allow outsiders to check estimates and calculations. A complementary response, explored in this paper, is to present a broad range of fiscal indicators, in part because a problem suppressed in one indicator is likely to show up in others, in part because each indicator provides a different sort of information. In particular, this paper has proposed presenting four interlinked deficits and associated accounts (cash, financial, full-accrual, and comprehensive) that would together present a picture of public finances in the round: one that makes use of the information in each of four deficits without relying on any single measure to tell the whole truth; one that integrates long-term fiscal projections with standard budget and accounting information; and one that helps reveal the use of accounting devices – one that, in short, allows the whole elephant to be seen.

Notes

1. There is no perfectly satisfactory terminology for these deficits. In particular, what is here called the financial deficit could also be called an accrual deficit or a modified-accrual deficit. The term financial is used here because the deficit is derived from what statisticians call financial accounts and to avoid confusion with what is called here the full-accrual deficit, as well as with the term modified accrual as that is used in US local-government accounting (Granof and Khumawala, 2011, p. 41). For a review of the literature on different ways of measuring the deficit, see Irwin (forthcoming).

2. The two kinds of problem – nonrecognition and mismeasurement – are related: nonrecognition is an extreme case of mismeasurement in which an asset or liability is wrongly measured at zero value.
3. In principle, the tradeoff might also be improved by reducing opportunities for the kind of manipulation that involves operations in unrecognised assets or liabilities, but this would mean preventing the government from engaging in certain transactions, not just prescribing how it reports the financial effects of those transactions. Moreover, many transactions that can be used to manipulate narrow deficit measures also have a nonaccounting justification. Thus, the attempt to improve the tradeoff is best focused on reducing the scope for mismeasurement.
4. The problem is not that the accounting is single-entry: because even cash accounting, as defined here, includes a (primitive) balance sheet, each transaction involves two entries. When the government receives taxes, for instance, it credits revenue and debits cash.
5. The value of such assets is thus equal to the increase in the net present value of the government's cash flows that they are expected to cause, conditional on current government policy. The same approach is used in long-term fiscal projections and comprehensive accounts, which project cash flows conditional on current government policy. On the assumption that government policy is to repay its debt, valuation conditional on government policy also avoids the seemingly paradoxical result that an indebted government's net worth improves when it becomes less creditworthy.
6. For the case of company accounting, see Stickney and Weil (2010, p. 108). As noted above, some government assets do not directly generate future cash inflows but rather reduce the future cash costs of carrying out current policies.
7. Although a single discount rate can be used for simplicity, the conceptually appropriate discount rate varies according to the timing and risk of the cash flow. Adjusting for the timing requires starting with a risk-free yield curve, rather than a single risk-free rate. Adjusting for risk requires adding or subtracting an appropriate risk premium.
8. The New Zealand Treasury's long-term fiscal model is available at www.treasury.govt.nz/government/longterm/fiscalmodel.
9. An assumption underlying this addition is that it doesn't involve significant double counting.
10. See CBO (2006, Table 1), Chan and Xu (2012, Table 4), and US Treasury (2013, Chart 1, p. ii).

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Time to look again at accrual budgeting

by
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A large number of countries are implementing accrual reporting to provide better accountability for the stewardship of public finances to their citizens. Far fewer nations have moved to an accrual basis for their government budgetary decision-making. Those few countries that have made the move do not regret doing so, having achieved significant benefits from that reform. This paper looks again at the benefits of accrual budgeting, at some of the major arguments that have impeded its international implementation, and how those issues have been addressed in the countries that have successfully adopted accrual budgeting. It suggests that the international public financial management community should revisit accrual budgeting, and that efforts to implement it should be redoubled, not because it is a panacea for all budgeting and fiscal problems, but rather because it provides a stable foundation for improving fiscal and budgetary decision-making and for providing fairer and more complete budgetary information to citizens.

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1. Introduction and summary

A large number of countries have implemented or are implementing accrual reporting to provide better accountability for the stewardship of public finances to their citizens. Far fewer nations have moved to an accrual basis for their government budgetary decision-making. This divergence in budgeting and reporting processes has been noted by the IMF who have urged that differences between budgetary, reporting and statistical measures of government financial performance be minimised.

This paper looks again at the benefits of accrual budgeting, at some of the major arguments that have impeded its implementation by governments, and how those issues have been addressed in the small number of countries that have successfully adopted accrual budgeting. It suggests that the international public financial management community should revisit accrual budgeting, and efforts to implement it should be redoubled, not because it is a panacea for all budgeting and fiscal problems, but rather because it provides a more stable foundation for improving fiscal and budgetary decision-making and for providing fairer and more complete budgetary information to citizens.

In the wake of the global financial crisis, financial management expectations on governments are changing. There is increasing pressure on resources, a more skeptical public, and the assumption that government borrowing is risk-free has died. Most importantly there is a growing understanding of the harmful impact of years of budget decisions made with only short term cash results in mind, without paying attention to the sustainability of the government's financial position.

It seems obvious that it is important to have clear, consistently applied and rigorous concepts to reflect the economic impact of budgetary decisions. However, cash budgeting practices do not apply such consistent concepts. There are a plethora of different measures of budget deficit and surplus between countries and within countries over time.

Other worthy efforts to improve fiscal decision-making and accountability are hampered when there is conflicting budgetary information on the economic impact of financial decisions and when there is no accepted process to gain general consensus on the most fair and complete way to reflect the economic impacts of budgetary decisions. The use of generally accepted accounting practices in budgeting provides a means of resolving this problem.

In the current environment, governments cannot allow the main impediments to change – political desire not to be transparent, bureaucratic desire not to write-off human capital (budgeters who do not understand accrual rules) – to continue to delay their response to the imperative to make and document budgeting decisions based on a fair reflection of their economic impact. It is past time to deal with the problems of cash budgeting.

2. What is accrual accounting and budgeting

Accrual accounting recognises costs when they are incurred, and separately treats the payment of those costs as a settlement of an obligation. For revenues, the accrual idea is similar. Both the earning or levying of the revenue and the other party's settlement of the transaction are recognised as two different things.

Table 1. **Accrual vs. Cash Accounting**

Accrual Accounting	Cash Accounting
<i>Earning or levying revenue</i>	<i>Earning or levying revenue</i>
Idea One: The revenue is earned/levied Debit: Receivable Credit: Revenue	One Idea: Revenue is received Debit: Cash Credit: Revenue
Idea Two: The receivable is settled Debit: Cash Credit: Receivable	
<i>Incurring expenses</i>	<i>Incurring expenses</i>
Idea One: The expense is incurred Debit: Expense Credit: Payable or Provision	One idea: Expenses are paid Debit: Expense Credit: Cash
Idea Two: The payable is settled Debit: Payable or Provision Credit: Cash	
<i>Capital items</i>	<i>Capital items</i>
Idea One: The asset is acquired Debit: Asset Credit: Payable	One Idea: Capital Expenditure is made Debit: Capital Expenditure Credit: Cash
Idea Two: The obligation is settled Debit: Payable Credit: Cash	
Idea Three: The asset is consumed Debit: Depreciation expense Credit: Accumulated Depreciation on Asset	

Source: Author.

Cash accounting and accrual accounting provide the same result when there is no timing difference between the earning/incurred of a revenue/expense and the settlement of the right/obligation arising. However, when there is a timing difference, only accrual accounting reports the resulting rights and obligations as they arise. Cash accounting ignores these rights and obligations.

Such rights and obligations are substantial. They include such things as taxes receivable, employee entitlements such as pension obligations to public servants, rights and obligations under public private partnerships. These are too big to ignore, and of course they are not usually totally ignored by managers of public finance. In a cash accounting system, they are likely to be managed and reported on through supplementary systems, rather than in the core accounting system. At its most basic, accrual accounting simply integrates these systems together, in the double-entry process first determined in the time of the Medici's some 600 years ago. It makes the connections represented by the arrows below:

Budgeting is a forecasting and resource allocation process. Accrual budgeting explicitly forecasts and makes decisions about how rights to resources are established and received, and how obligations are incurred and settled. Cash budgeting on the other hand only focuses on the forecasting and allocation of one economic resource, that is, cash.

Fundamentally, accrual budgeting differs from cash accounting in that decisions on the cost of an item and decisions on settling that cost are explicit. The implication is that when it comes to accrual budgeting, two budgeted events rather than one need to be documented, as illustrated in the table below:

Figure 1. Making the connections in accrual accounting



Source: Author.

Table 2 shows the accrual budgeting process applying common accounting principles to the variety of items reported. Such principles are usually described as “generally accepted accounting principles”. The cash budget processes can vary considerably, (cf. the “perhaps” that frequently occurs in the cash budgeting column). That lack of uniformity can generate confusion for both budgeters and those holding budgeters to account.

The single focus on cash-flows under the cash budgeting approach means that critical information about obligations and resources needs to be added through supplementary processes. There are no common principles for being transparent about these obligations and resources, and the information is not integrated with the cash forecasts.

Sometimes cash budgeting tools can be put in place to mimic accrual accounting. Thus in the example above where there is a commitment to make compensation payments over three years, the Government might set up an extra-budgetary trust fund which it pays the proceeds into in the first year, that fund then making payments over the three year period. As a result the cash payment recognition point may move to the initial year, despite the fact that the beneficiaries still don’t receive their compensation payments any earlier. This reinforces the point that there are no common principles for ensuring cash budget approaches reflect economic substance or remain comparable.

In accrual budgeting, both the entering into any obligation and the establishment of rights to any resource are documented as well as the cash-flows that typically occur when those rights and obligations are settled. It is important to note that cash flow information is not lost but remains an integral part of the budget process.

Table 2. **Differences in cost and decision between accrual budgeting and cash accounting**

Example of item	Accrual Budget	Cash Budget
Personnel employment, where 50% of the remuneration is paid in post-retirement benefits.	As an expense, budget full personnel costs, including an actuarial estimate of the cost of employment entitlements earned. As a cash payment, budget the cash paid to the employee and the cash paid to retirees.	Budget the 50% payment to employees, and either the payment to retirees, or else any cash contribution to the pension fund outside the budget. As a supplementary item, perhaps document any change in the unfunded liability of the pension scheme.
Provision of interest free student loan.	As an expense, budget the subsidy reflecting that the loans are interest free and the credit risk being assumed. As a capital item, budget the expected recoverable amount of the loan as an asset. As a cash payment, budget the full amount of the loan that is being made to the student.	Budget the full payment of the loan to the student. As a supplementary item, perhaps document the extent of the subsidy that is being provided, and perhaps information on the costs associated with the credit risk the Government has assumed.
Enter into a binding commitment to pay compensation for harm or loss over a three-year period.	As an expense, budget the compensation as an expense at the point the binding commitment is entered into. As a cash payment, budget the cash paid over the three-year period.	Budget the compensation in each of the three years the payments are made. As a supplementary item, perhaps document the outstanding commitment.
Purchase a motor vehicle, and continue to use over a five year life, with an expected residual resale value of 40% of its cost	As a capital item, budget the acquisition of the motor vehicle. As an expense, budget 12% of the cost of the motor vehicle in each of the five years it is expected to be used. As a cash payment, budget the settlement of the liability to pay for the motor vehicle. When forecast to be sold, budget the proceeds of its disposal.	Budget the capital expenditure of the car in the year of purchase and the capital proceeds in the year of sale. As a supplementary item, perhaps document the ownership of the car, and its value.

Source: Author.

The benefits of accrual budgeting for users of budget documentation are therefore clear and obvious:

- **More consistency:** The accrual budgeting approach will reflect economic decisions in a standard way (as determined by generally accepted accounting principles). The increased consistency leads to greater understandability and more reliable budget reports. Readers of budget documents are freed up to focus on what they say, rather than investing effort in determining how they are prepared.
- **Greater relevance:** Cash budgets document just the cash flow. Accrual budgets also document the activity that generates the cash flow. To the extent that users of budget document are interested in the activities of the Government, accrual budget information is more relevant to meeting that need.
- **Better decision-making:** When budget decisions are proposed under generally accepted accounting principles using the accrual basis, the economic substance of budget decisions is provided for the consideration of the decision-maker. That is, better accounting means that budget decision are made on the economics, rather than on a basis of accounting that excludes consideration of obligations and rights not included in the cash flows in the budget period.
- **Better accountability:** The accrual budgeting approach provides a basis for comparison with audited financial statements prepared in accordance with generally accepted accounting practice. Therefore the accrual budget process provides a better basis for holding the government of the day accountable for its stewardship as a financial manager.

- *Greater coverage:* Cash budgeting can only be relied on to show information on the cash and debt flows of the bank accounts and borrowings that are stipulated to be within the budgetary system. Accrual budgeting integrates such information with the forecast financial and operating position of the entity, providing the readers of budget documents information on such items as property plant and equipment, debtor and creditor balances, and service performance obligations. The budget documentation therefore reveals the government's financial management intentions for these stocks of assets and liabilities; This richer suite of information allows a more informed assessment to be made of the expected financial results and position of the government reporting entity.

It seems, at first blush, hard to credit that any country would espouse the cash budgeting process as being more understandable, less easily manipulated, or more reliable than an accrual budgeting process. Yet only a very few countries' governments have adopted accrual budgeting.

Perhaps the few that have adopted accrual budgeting have done badly and regret their boldness? However, a consideration of their actual experience reveals this is not the case.

3. International adoption

New Zealand is generally considered to be the first government to move to accrual budgeting. Following the passing of the Public Finance Act 1989, an integrated and comprehensive set of measures was put in place, aimed at ensuring that the aggregate fiscal position was brought under control, and focussing on accountability for performance. The context for the change was a dire fiscal situation and positive experience of a more managerialist approach over Governmental trading activity through a corporatized approach that emphasised clarity of objectives (and the removal of conflicting objectives). In bringing the managerialist approach to core public services the differing perspectives of performance from citizen-as-owner and citizen-as-purchaser¹ of government services were recognised, and thus the budgeting processes were reconfigured to document expectations for all the balance sheet items (owned by citizens), and the cost, quality and quantity of services (delivered to and paid by citizens).

This required accrual budgeting at a departmental level, and allowed for the publication of whole-of-government² financial statements based on generally accepted accounting principles. The reforms were considered successful and were entrenched by the Fiscal Responsibility Act of 1994, which stipulated that fiscal updates prepared with budgets provide accrual based forecast financial statements for the government, and moved all appropriations to an accrual basis.³

There have been two major review of public sector management in New Zealand since those reforms. The "Review of the Centre" which culminated in the 2005 amendment to the Public Finance Act, and the "Better Public Services" review which culminated in a 2013 amendment. In each case the structure of the accrual budgeting was found to be sound, with amendments being focussed on amending the scope of appropriations, to allow improved flexibility to achieve objectives.

Australia to a lesser extent faced the same issues as New Zealand in the early 1990s, and also instituted a number of reforms to bring a more managerialist approach to public administration. Unlike New Zealand however, Australia has a federal structure, and greater attention goes to ensuring uniform presentation of forecasts and results of both the Commonwealth and the Australian states, to facilitate decisions on loans, grants and transfers between these entities. Australia achieved this through a uniform presentation

framework, based on Government Financial Statistics reporting. While this was moving to an accruals approach, Australian legislatures sought assurance that such accrual information was prepared and audited to accounting standards. This led to challenges in reporting fiscal outcome measures for the general government sector based on GFS producing a different result than whole-of-government reporting based on Australian accounting standards. This issue was finally resolved with the issue of accounting standard AASB 1049 in 2007.

As well as macro-economic reporting, Australia also took a slightly different approach to New Zealand at a micro-economic level in line with its slightly different financial management framework. With a more developed evaluation approach as part of its financial management, rather than focussing on fully costed services, appropriations were made for programmes and for running costs of departments. Programmes were made subject to evaluation to encourage effective spending while running cost appropriations were made subject to an efficiency dividend.

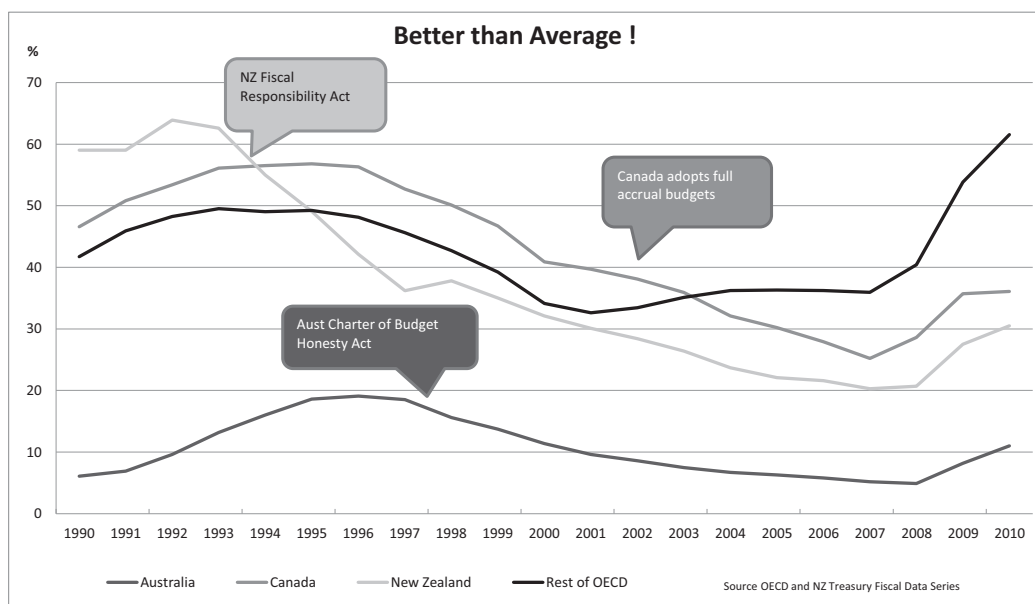
As in New Zealand, the Australian approach has been the subject of a number of reviews, and this has led to changes in the methods of evaluation, and increases and decreases in the extent of devolution of decision rights from the centre. For example, under “Operation Sunlight” in 2009-10, Australia changed its approach to appropriations, removing depreciation expense and replacing it with capital appropriations for asset purchases. However, as with New Zealand, the basic architecture of accrual based budgeting and forecasting has been reaffirmed at each review, only the method of appropriation changed.

In Canada, budgets have conventionally been prepared on the same basis as the financials ever since standards were developed in the 1980s. In Canada, the argument that there is no proper accountability if different basis are used and that the so called “reconciliations” do not really work has been readily accepted. The Canadian move towards accrual accounting was accomplished in stages. It first adopted the “modified accrual” basis, which required every item other than property, plant and equipment to be prepared on the accrual basis (thus liabilities for employment benefits –pensions, vacation pay and sick leave were included in the “modified accrual” accounts and budgets). Property, plant and equipment was recognized on acquisition and not deferred. Both financial statements and budgets used the modified accrual basis until 2002-03, at which time the move to full accrual accounting and budgeting was completed.

While the production of budget documentation showing expected fiscal performance on an accrual basis has been uncontroversial, there has been significant debate in Canada as to whether parliamentary appropriations should be on an accrual or cash basis. On the one hand there is a view that it is dysfunctional to have fiscal budgets and actuals on an accrual basis but not the appropriations, whereas on the other hand there is a view that parliamentarians more readily understand cash appropriations. Currently appropriations remain on a cash basis in Canada.

In New Zealand, Australia and Canada therefore there is now a long-established tradition of accrual budgeting. These three countries are generally well regarded for their fiscal and budgetary practices, and this is reflected in their fiscal aggregate position shown in Figure 2. While they each regularly review and make minor changes to improve their frameworks, the fundamental position of accrual budgeting is not under question. They do not regret the approach they have taken.

Other countries have made moves towards accrual budgeting, without however adopting an accrual measure of fiscal performance based on generally accepted accounting practice.

Figure 2. **Gross Government debt as a percentage of GDP**

Source: OECD and NZ Treasury Fiscal Data Series.

The United Kingdom decided to adopt a Resource Accounting and Budgeting framework in a July 1995 White Paper. Such an approach already operated in the nationalized industries and public corporations, local government and the National Health Service (NHS). The critical driver for the reform in the UK was to provide better information for better management decisions, so that government departments improve the use of their resources to fulfil their objectives. This was particularly the case with information on capital assets, where the limitations of cash accounting were believed to be the most pronounced.

Since 2001/02, appropriations in the United Kingdom have been made on an accrual basis setting a departmental expenditure limit for capital and resource (operating), along with annually managed expenditure also categorised for capital and revenue. The annual financial statements of departments include a Statement of Parliamentary Supply which provides a “line of sight” from the parliamentary appropriations to the Statement of Comprehensive Net Expenditure included in the GAAP based financial statements. However, unlike NZ, Australia and Canada, the United Kingdom does not document its budget decisions to produce its fiscal forecasts on an accrual basis. The critical measure of fiscal performance remains therefore on a cash basis.

The report to the OECD Public Sector Accruals Symposium in 2013 on the results of an OECD Survey of Accrual Accounting and Budgeting Practices noted that three other countries had partly moved to an accrual budgeting basis: Austria (Public Service Pensions Excluded) Iceland (No Capitalisation/Depreciation of Assets) and Switzerland (Public Service Pensions and Capital Acquisitions Excluded).⁴

Overall, this low take up of accrual budgeting is in somewhat stark contrast to the 22 governments adopting accrual accounting: 13 countries that report fully on an accrual basis, three that report on an accruals basis with some exceptions, and six national governments that are transitioning to an accruals basis.

This diverging practice of budgeting and reporting has led the IMF to call for a revitalised fiscal transparency effort and action on presenting forecast and actual fiscal data on a consistent basis.

4. International rejection

Any change to a new basis for budgetary decision-making and documentation is going to take significant effort and will therefore generate resistance. Partly as a result, there have been a number of arguments mounted for cash budgeting. These arguments are considered below.

4.1. Accrual budgeting adds complexity

It is sometimes argued that if a government is called on to budget for accrual items, it must have reliable data for the transactions. Considerations of cost or availability of data need to be taken into consideration. For example Allen Schick has observed “It is not reasonable to expect a government that accounts for public finances on a cash basis or lacks timely, audited financial statements to produce credible accrual-based budgets”.

Sequencing a reform process is indeed important. In the countries described earlier, the adoption of accrual reporting pre-dated accrual budgeting. However the argument that accrual budgeting is too complex in the absence of reliable data had greater merit six years ago when cash accounting was the norm. It rests on a view that it is acceptable to account for public finances on a cash basis, or not to produce timely audited financial statements.

That attitude is no longer acceptable in 2015. Governments should hold themselves to a high standard of accountability. International norms increasingly demand it, from the IMF and World Bank efforts in strengthening fiscal transparency and government accounting, from IFAC and IPSASB promoting high quality financial standards, and the expectations being established by such organisations as PEFA and the OBP. The latest OECD accruals survey conducted for the Annual OECD Accruals Symposium reported that the majority of OECD member governments were using accruals and many were in transition to accruals.

This suggests the time is right for re-opening the accrual budgeting debate.

4.2. Accrual budgeting overloads the budget process

While a government, or its auditors, may delay the publication of its financial statements – such an attitude is not acceptable for the budget process. If budget decisions are to be effectively implemented, they need to be made and communicated on a timely basis. Sceptics of accrual budgeting warn that budgetary reforms that overload the process, or which generate more internal conflict between budget decision-makers are to be avoided. They note difficulties that have been experienced with zero-based budgeting, and performance based budgeting, and foresee similar problems with accrual based budgeting.

Just as it is not possible to describe the impact of a proposed new accounting system without regard to the accounting system that is currently in operation, the impact that accrual budgeting will have on the budget process will very much depend on the budget process that has been previously followed.

In response to the charge that accrual budgeting overloads the budget process however, there are two observations from the experience of the countries that have

adopted accrual budgeting that are frequently overlooked. Firstly, there are efficiencies in operating an integrated system in comparison with one that has a number of disconnected parts. For example, in New Zealand, financial recommendations going through the Cabinet budgetary decision making process simply report, for each of the forecast years, the operating statement (accrual) impact of the proposed initiative, as well as the (cash) impact on net debt. From this information budget baselines are updated, and accrual-based fiscal updates can be prepared. That has not proved onerous.

The second observation is that decision-making can be streamlined when decisions on how to account for budget decisions are removed from the budget process. A commitment to prepare budget documents on the same basis as the financial statements means that the budget debates can focus on the comparative economic benefit of proposals, rather than being burdened by presentational issues.

4.3. Accrual budgeting will not integrate with budget rules

Some commentators have distinguished between the use of accrual information to provide insights to decision-makers, and contrast that to approaches where accrual information is framed into decision rules that shape budgetary decisions. The critical difference between these two approaches is in the manner in which politicians and officials frame their resource allocation decisions and processes.

To the extent that budgetary rules do not change with the provision of accrual information to the process, the relevance of the accrual information can indeed be questioned. In the time pressured, deadline driven process that is government budgeting, extraneous information that is not essential will quickly be discarded.

However, governments are well attuned to the importance of deficits and as noted previously, these are increasingly being reported on an accrual basis. For a clear line of sight between the desired outcome of a targeted accrual-based deficit (or surplus) and the budgetary decision making, a decision rule using the same recognition and measurement basis, for example in setting allowances for new expenses, is likely to be most helpful to decision-makers.

4.4. Accrual budgeting puts at risk fiscal control over cash

This concern emanates from a consideration of the binding constraint of appropriations on the system. It has been argued that there can only be one binding constraint. If the appropriation is cash based then the level of cash expenditure is directly controlled. If however the appropriation constraint is expressed in accrual terms, then it is suggested that “spending ministries compliance with accrual budget limits cannot therefore be monitored (other than very approximately) in terms of their access to cash.” Those expressing this fear highlight that control of an accrual budget relies on ex post monitoring and sanctions, whereas control of a cash budget is exercised through the limited release of cash.

There are two main problems with this argument. The first is that execution or control of the budget, whether accrual or cash, relies first and foremost on the internal control system operated by the Government. It is those internal controls which ensure that commitments in excess of the budget are not made, that invoices are checked and approved before payment is authorised, and that there are sufficient funds available to effect the payment. Absent any of those internal controls, there can be no assurance that the budget, whether on a cash or accrual basis, will be properly executed.

In this sense, appropriations are an external control, imposed by the legislature on the executive. However the legislature relies on the exercise of the executive's internal controls to comply with the appropriation external control, and receives ex post assurance on that (or not, in the case of some Governments) from its legislative auditor. Except in the most dire of circumstances, the withholding of cash from a government agency is too disruptive to be a useful control, and it is simply not possible to withhold cash at a more disaggregated level without the employment of internal controls.

The second problem with this argument is that it falls into the trap that the choice is between accrual or cash budgeting, without recognising that accrual budgeting incorporates cash budgeting. As I have noted above, accrual budgeting refers to deciding and documenting both how rights to resources are to be established and collected, and how obligations are to be incurred and settled. Cash budgeting on the other hand only focuses on the collection and payment of cash.

It is not necessary however to rely on normative arguments to test this issue. There are now decades of government experience with accrual budgeting. In the case of New Zealand, Australia and Canada, it is manifestly apparent that these governments have not lost control of their cash or debt. Rather, the opposite is true. By exercising greater budgetary influence on the incurrence of expenses, these governments have gained greater control over the consequential cash or debt aggregates.

4.5. Accrual budgeting doesn't integrate with appropriations

Government budgeting practices need to cater for the demands of legislatures, who in most countries have a constitutional role in appropriating or authorising the payment of public money. Some fear that control of the public purse will be diluted if appropriations are made on an accrual basis.

In considering this issue, it needs to be noted that there are no internationally agreed standards for the classification of appropriations. While most legislatures organise appropriations on an organisational basis, as that makes the responsibility for the appropriation clear, they do not simply just provide a bucket of cash to an organisation, but rather they further classify appropriations on a variety of bases. These may be on an input basis (e.g. personnel, transfer payments etc.) an output basis (e.g. policy advice, policing services etc.) a programme basis (e.g. public health, budget administration) a management basis (e.g. running appropriations and project based appropriations). No matter which of these classifications is used, accrual information is likely to be the more pertinent, and provide the most true and fair reflection of the real resource costs being incurred.

Further to this, because accrual budgeting separates out the cost of an item from the settlement of that cost, this brings to the legislature's attention not just the impact of the proposed appropriations on the activity the Government is proposing to carry out, but also the impact on fiscal aggregates such as debt. Legislatures can devise a variety of means for approving these proposals, but accrual appropriations provide an opportunity to avoid the situation where contradictory appropriations and debt ceiling limits reduce both the Legislature's credibility and the Executive's ability to perform well.

To illustrate the variety of mechanisms that legislatures and executives can adopt in the process of being informed on and approving expenditure, take the budgeting of large capital projects in New Zealand. The reporting and approving of these projects involves a

number of stages, as shown in the Box below. The seeking and the granting of an appropriation is a vital and integral element of the capital expenditure process, but it is not the legislature's only opportunity to scrutinise the expenditure.

Box 1. The legislature's interest in the stages of a large capital project in NZ

Recognising the project in the long term capital intentions report: This annually prepared and publicly available capital spending wish list over the next ten year period is used in conjunction with the Government's overall fiscal policy and fiscal constraints to set the capital spending allowance that is used in New Zealand's medium term expenditure framework and the out-year accrual fiscal forecasts prepared under generally accepted accounting principles.

Accepting an Indicative Business Case for the project: Once an indicative business case for the project has been accepted a specific fiscal risk is reported in the half-yearly fiscal updates to Parliament based on best estimate of proposed capital and operating costs.

Accepting a Detailed Business Case for the project: Upon successful completion of the detailed business case, forecasting and budgeting costs for capital expenditure projects will be based on the costs (in the case of Public-Private-Partnerships (PPPs) the cost of the Public Sector Comparator, i.e. "what the project would cost if delivered through conventional procurement"). The capital project will "count" against the capital allowance in the relevant year the approval of the detailed business case is made. Consequential operating costs for the project will be recorded against the relevant financial years' operating allowances, and the fiscal forecasts updated accordingly.

Going to Market: On approving the Expression of Interest going to the market. Cabinet Ministers will agree maximum expenditure on capital, operating, and finance costs based on the contract. Joint Ministers will be delegated authority to act on behalf of the Crown to bring the contract to financial close and will be delegated authority to seek appropriations from the legislature to match the contractual price.

Signing the Contract: For large capital projects, a multi-year capital expenditure appropriation will typically be sought, giving the legislature the opportunity to consider the project as a whole, and avoiding unappropriated expenditure risks associated with construction delays.

Construction: Actual expenditure against the accrual-based capital expenditure appropriation, and in the governments financial statements against the fiscal forecasts, will be reported as the construction occurs (whether the project is via conventional procurement or through a PPP).

Payment: As the money is being spent for the purposes of meeting expenses or capital expenditure incurred in accordance with an appropriation, payment will be made on satisfaction of the terms in the contract, and controlled through the internal control system of the department. Note that in the case of a PPP contract with a five year construction phase, and a 30-year service concession, the final cash payment may be 35 years after the contract is signed and the accrual appropriation is sought.

There are challenges and issues with familiarising and educating politicians and bureaucrats with the financial management and accrual processes. What is often forgotten however is that the current processes also had to be learnt, and that knowledge over these systems is held by relatively few, who often find power in that knowledge. The

understandability and transparency of the above budget process is greater than one when the legislature is simply asked to approve cash payments in relation to the project when they become due, in the case of a PPP, often years after the asset was constructed.

4.6. Cash is less prone to manipulation

Many think that because accrual accounting involves estimations and judgements, it is more subject to manipulation. The case for this can be overstated however, as cash forecasts also make assumptions about future prices. Further the development of generally accepted accounting principles has led to a body of requirements aimed at providing comparable information between entities and over time. This body of generally accepted accounting principles constrains poor accounting practices and limits manipulation. No such body of practice exists for cash accounting, or for cash budgeting.

In April 2011, the IMF Fiscal Monitor reported on accounting stratagems applied by governments using a cash basis for budgeting that affect the reporting of deficits or debt in the budget documents. Some stratagems are simple: with cash accounting and a lax definition of debt, governments can reduce deficits and leave reported debt unchanged, by deferring paydays and delaying payment of bills and tax refunds. Other stratagems, however, are more complex.

The appendix to this paper lists the more complex stratagems listed by the IMF Fiscal Monitor, and shows how an accrual budgeting approach applying IPSAS would ensure the economic substance of such practices is fairly reflected in the fiscal forecasts.

That appendix shows conclusively that accrual budgeting is less prone to manipulation than cash budgeting.

4.7. Accrual Budgeting will not resolve the most pressing budgetary problems

This argument is perhaps best exemplified by the title of a GAO Report to the Committee on the Budget of the US Senate in December 2007, “Accrual Budgeting Useful in Certain Areas but Does Not Provide Sufficient Information for Reporting on Our Nation’s Longer-Term Fiscal Challenge.” The suggestion is that while accrual budgeting is worthy, it is not a priority. It won’t provide all the information to resolve all the problems.

Budgeting is of course primarily a political exercise – and the most critical aspect of a successful budgeting process will be the political dynamics, and the ability to build political commitment and support for the budget objectives, whether they are to resolve long-term fiscal challenges, or to tackle shorter term issues such as productive and allocative efficiency.

Despite this, the political aspects of the budget process must be supported by an administrative process. Compared to cash budgeting, accrual budgeting provides consistent, reliable and understandable reports that free political decision makers to focus on what the budget document says and directs them to decisions on the activities causing the cash flows, rather than on how cash flow timings can be changed. Accrual budgeting also provides a more comprehensive coverage of the fiscal impact of the Government entity rather than on designated bank accounts. Accrual budgeting may not provide a perfect picture of expected financial performance and condition, but it will provide a more complete picture than cash budgeting.

The argument for accrual reporting is not that it will resolve fiscal problems or make the trade-offs budget decision-makers have to make easier, but rather that it will remove impediments that cash budgeting puts in the way of understanding and being transparent about the fiscal impacts and trade-offs involved. Accrual budgeting is not a guarantee of successful budgeting; rather it makes failure less likely.

5. Conclusion

If experience from the countries that have adopted accrual budgeting is a guide, more widespread adoption will have a significant beneficial impact on the management of public finances internationally.

A number of other countries have considered accrual budgeting. They have been daunted both by the challenges involved in undertaking such an overhaul in the budgetary decision making process and have been put off by a number of cautions that have been made against accrual budgeting.

Undertaking this type of reform is indeed a significant exercise, and the usual critical success factors of such reforms apply. A successful transition to accrual budgeting requires political commitment, the expectations of the benefits to be obtained from accrual budgeting need to be clear, a sound legal infrastructure needs to be in place, a challenging but realistic timetable, and a core of capable, motivated, and experienced public servants with sufficient resources and discretion to manage the implementation must be in place. Above all communication is key, not least because a key goal of accrual budgeting itself is to more transparently and more completely document the budget.

Much analysis of accrual budgeting has focussed on implementation issues such as structure of appropriations, treatment of heritage items, extent of devolution of capital spending authority and the relationship with performance budgeting. These are issues whether cash or accrual budgeting is used or not. Rather, this paper has sought to clarify the meaning of accrual budgeting. It has proposed that accrual budgeting is a process that makes explicit decisions and forecasts on both the cost (or levying) of an item as well as the settlement of that cost (or levy).

The benefits that flow from making these decisions and forecasts explicit and using generally accepted accounting principles are more consistency in reporting and therefore more reliable and understandable budget reports, more relevant information on activities and cash flows, greater coverage as the forecast financial position of the entity is depicted rather than just its cash and debt position, better decisions as they are based on economic substance rather than being distorted by cash accounting inadequacies and better accountability derived from the ability to compare accrual budget information with audited financial statements, therefore providing a better basis for holding the government of the day to account for its stewardship as a financial manager.

A closer examination of the many cautions that have been made about accrual budgeting suggests they are without merit in an environment where accrual reporting is more prevalent, where government financial managers are expected to cope with complexity, and where the financial processes of government are expected to integrate with the other processes of government.

In the context of the current significant sovereign debt concerns therefore, the time is right to look again at accrual budgeting, to recognise that many of the perceived problems are myth. The international public financial management community should redouble

efforts towards the implementation of accrual budgeting. Such reform will not fix all budgeting and fiscal problems. It will however provide a more stable foundation for improving fiscal and budgetary decision-making and for providing fairer and more complete information to citizens.

Notes

1. From the perspective of owner the ability to meet future demand, manage risks, and have a capital operating split that leads to low long run marginal costs is important; from the perspective of a purchaser, the value that is obtained from the services provided and the cost of those services is important. To meet the information needs of citizens taking either perspective, accrual information is required.
2. Whole-of-government financial statements include all entities controlled by the Government. While the entities included in whole-of-government financial statements will differ between governments that have different constitutional and governance arrangements, the requirement to include all controlled entities, stops budgeting arbitrarily excluding entities with resources or obligations that are material to the government's financial results and position.
3. Prior to 1994, departmental appropriations only were on an accrual basis, expenditure that departments managed on behalf of the Crown, such as social benefits moved to an accrual basis with the passing of the Fiscal Responsibility Act that year.
4. See Overview of Accrual Accounting and Budgeting Practices – Results of the OECD Survey, Presentation by: Jon Blondal, OECD Secretariat, 13th Annual OECD Public Sector Accruals Symposium, Paris 7-8 March 2013

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ANNEX

Cash Budgeting stratagems identified in IMF Fiscal Monitor, April 2011, and the impact if accrual budgeting applying IPSAS rules was used

Cash budgeting stratagem

In a typical currency swap, two parties agree to make a series of payments to each other in different currencies but with equal expected present values. No money changes hands up front, and no debt is created. But if swap payments are based on an exchange rate other than the market rate, the two series of payments may have different present values and a debt may be created – but one that may not have to be reported as such. Greece, for example, used such swaps in 2001-07 to reduce reported debt by 2¼ percent of GDP at the end of 2009 – until Eurostat scrutinized Greece's books.

Accrual Budgeting using IPSAS

Under IPSAS 30, the initial measurement of a currency swap must be initially measured at fair value. Any budget proposal to enter into a swap using an exchange rate other than the market rate would result in the proposed gain or loss being reported in the budget documentation.

Cash budgeting stratagem

The Portuguese government recently assumed the pension assets and liabilities of Portugal Telecom, in a transaction that reduced the country's reported deficit for 2010 by 1½ percent of GDP. European reporting standards, set after a similar transaction by France in 1997, treat receipt of the assets as revenue without treating assumption of the obligations as spending. A comparable effect is achieved through the reversal of pension reforms, in which private second-pillar systems are returned to the public pay-as-you-go system (as in Argentina and Hungary): pension contributions provide an immediate boost to revenues, whereas the associated pension liability will translate into spending only in the future.

Accrual budgeting using IPSAS

IPSAS does not currently have a standard on acquisitions. However it has an active project on the subject and a consultation paper was released in June 2012. That Consultation Paper proposed that the recipient in an acquisition not under common control would report a loss where the recipient assumes net liabilities.

Cash budgeting stratagem

The sale and lease-back of government property can disguise borrowing. For example, in the United States, the state of Arizona, in the face of restrictive constitutional limits on debt, raised \$1 billion in 2010 through contracts in which the state sold various buildings and simultaneously leased them back.

Accrual budgeting using IPSAS

IPSAS 13 paragraphs 70 to 78 set out reporting requirements for sale and lease backs. If the transactions result in a finance lease then a liability must be reported. If the lease is an operating lease and the sale is below fair value, the loss shall be recognised immediately, unless that loss will be clawed back through expected lease payments.

Cash budgeting stratagem

In some public-private partnerships, the private sector invests in public buildings or infrastructure, and the government pays for services provided by the assets over the following decades. In the United Kingdom, obligations created by these arrangements amounted to some 2¼ percent of GDP in February 2010. In Portugal, such arrangements have created obligations worth about 3½ percent of GDP (not counting road contracts or contingent liabilities).

Accrual Budgeting under IPSAS

IPSAS 32 prescribes the accounting for public private partnerships. Where the arrangements are such that the Government controls the services delivered by the infrastructure, the price paid for those services and obtains a significant residual interest in the infrastructure at the end of the arrangement, IPSAS 32 requires both the infrastructure asset to be recognised by the Government as well as a liability representing the governments consideration for the asset that will be settled through the service payments.

Cash budgeting stratagem

Governments generally report the cash cost of paying pensions to retirees, but not the “employer contribution to pensions” element of their current employees’ compensation package, since this does not require a cash outlay. In 2010, the U.S. federal government reported cash spending of \$123 billion on military and civil service pensions in its deficit, whereas its less-publicized estimate of “net operating cost” in the government’s financial statements counts the cost of the pensions at \$312 billion.

Accrual budgeting under IPSAS

IPSAS 25 recognises that defined benefit pension schemes may be funded partly unfunded or fully funded. Because the employer is in substance underwriting the risks associated with the scheme the expense recognised is not necessarily the amount of the contribution due. IPSAS 25 requires the reporting of current service cost, interest cost, the return on the scheme’s assets (both the actuarially expected return and any actuarial gain or loss) changes in past service costs, actuarial gains or losses and the effect of any curtailments or settlements. Thus accrual budgeting requires actuaries to forecast the full cost of the impact of the pension scheme for determining the forecast deficit, and the increase or decrease in the outstanding obligation following the government’s contribution decisions.

Cash budgeting stratagem

Many governments have privatized public enterprises to meet deficit targets, exploiting accounting standards that treated privatization receipts as revenue, but did not recognize the loss of future revenue associated with the transaction. Under other standards, such as those now used to calculate the deficit under Europe’s excessive deficit procedure, the sale of shares of public enterprises does not reduce the deficit, but sales of nonfinancial assets, such as real estate, do. Of course, selling loss-making or barely profitable enterprises to owners that can improve their efficiency may improve the fiscal position of the government. But the reported fiscal improvement associated with selling profitable public enterprises can be much greater than the actual improvement.

Accrual Budgeting under IPSAS

While there is no IPSAS specifically covering the privatisation of an entity, IPSAS 3 directs management to refer to the requirements in IPSASs dealing with similar issues. IPSAS 16 requires only the gain or loss on the sale of an item of property plant and equipment to be included in surplus or deficit, that gain or loss being the difference between the net disposal proceeds and the carrying amount of the item.

Cash budgeting stratagem

In the 2000s, many European governments securitized future revenues to reduce their reported deficits, selling rights to receive future revenues. Belgium and Portugal securitized tax receivables. Greece securitized lottery proceeds, air traffic control fees, and EU grants. Italy reportedly raised €66 billion-€90 billion through securitizations.

Accrual Budgeting under IPSAS

IPSAS 23 notes that some transfers are in the nature of an advance receipt, referring to resources being received prior to a taxable event or transfer arrangement becoming binding. It stipulates that advance receipts give rise to an asset and a present obligation. Where the securitization imposes future obligations on the government entity, the transaction is an exchange transaction and revenue is only recognised when the conditions of the exchange are fulfilled.

What are budgeting's purposes? Comments on OECD's principles of good budgetary governance

by
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OECD's Recommendation of the Council on Budgetary Governance makes a substantial contribution to discussion of good budgetary practice by synthesising much common understanding while updating it to recognise some lessons from the experience of the Great Recession. Yet its implicit understanding of the purposes of budget processes has weaknesses both as policy and political analysis. The policy understanding overemphasises the importance of budget totals relative to budget details. The political understanding is as top-down as the policy view. Although budgets might be seen as contracts between citizens and the state, in a representative system they are better seen as treaties among citizens negotiated through politics. The Recommendation barely recognizes the existence of and challenges from political conflict.

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1. Introduction

A lot of research in the budgeting field, as in much of public administration, has been reformist or prescriptive.¹ In some cases, analysis and prescription have, directly or less so, led to changes in practice. The progressive era work by the New York Bureau of Municipal Research defined and provided impetus for creation of municipal budget systems in the United States. The Bureau movement and President Taft's Commission on Economy and Efficiency helped develop the ideas that led to the President's Budget.² More recently, Roy Meyers rightly reports that "reform advocacy, by the General Accounting Office in particular", contributed to passage of the Chief Financial Officers Act of 1990 and the Government Performance and Results Act of 1993.³ At a time of great concern about budgets present and future, the Organisation for Economic Co-operation and Development (OECD) has now produced a new prescription, in the form of a *Recommendation of the Council on Budgetary Governance* (OECD, 2015) which identifies "ten principles of budgetary governance".⁴

The OECD's principles are likely to be influential around the world. They were generated under the direction of the Working Party of Senior Budget Officials, which since 1980 has brought together budget directors and other top officials involved in budgeting from virtually all OECD countries.⁵ The SBO group works closely with the OECD's Budgeting and Public Expenditures Division,⁶ and its membership ensures that any research and recommendations will be spread across the budget policy networks in virtually all OECD member states. More immediately, the process ensures that this Recommendation already represents the thinking of leading budget professionals in those countries. The OECD's prestige and its role as a generator of governance standards more generally,⁷ positions it as a central source for budgeting advice among governmental elites in rich democracies.⁸

The provenance and intent of the principles is explained in the final document's introduction:

"The objective of this Recommendation is to draw together the lessons of a decade and more of work by the OECD Working Party of Senior Budget Officials (SBO) and its associated Networks, along with the contributions and insights from Public Governance Committee and other areas of the OECD, as well as those of the international budgeting community more generally. The Recommendation provides a concise overview of good practices across the full spectrum of budget activity, specifying in particular ten principles of good budgetary governance, which give clear guidance for designing, implementing, and improving budget systems to meet the challenges of the future. The overall intention is to provide a useful reference tool for policy-makers and practitioners around the world, and help ensure that public resources are planned, managed and used effectively to make a positive impact on citizens' lives."⁹

The OECD principles should be of interest to all budgeting practitioners and scholars, simply because they represent the considered opinions of leaders within the international budgeting community. Yet they also provide an opportunity to reflect and ask questions.

Textbooks on government budgeting frequently include a discussion of the purposes or functions of budgeting, or the standards by which budget processes should be evaluated.¹⁰ Examples include democratic accountability, transparency, various definitions of “balance”, increasing efficiency, setting priorities, economic management, responsiveness (with varying senses of to what or whom) and stewardship. The varied definitions can overlap; thus “stewardship” in one framework logically includes elements of “balance” in another. Beliefs about how these various standards or purposes are met will also vary. For example, between the late 1970s and 2008, American economists came to increasingly define the economic function of the national budget not as managing demand but as increasing national savings. Around September of 2008, stimulating demand suddenly regained their attention.¹¹ Regardless of the details, any evaluation of budget processes will begin from some sense of what budgeting should and can accomplish.

The Recommendation represents a broad view of those purposes, including shaping economic performance, integrity of implementation, notions of the relationship between citizens and the state, citizen participation, and efficiency. Yet in a few ways the principles appear to derive from views that may not be realistic, or may fit better in some political systems than in others. They especially suggest a view of the relationship between the government and the public – or the state and its citizens – which does not recognise political disagreement either among citizens or within the government. This seems peculiarly inappropriate for budgeting in a representative system, since such systems are required to process and cope with disagreement.

Stated most briefly, those principles are in Box 1.¹² In the document, each is presented with about a half-page of commentary in the form of further assertions and elaborations. Readers of this article should please read the document itself to get a fuller appreciation of the logic for each principle. Here, I will focus on a few themes.

Box 1. OECD Principles of Budgetary Governance “at a glance”

1. Manage budgets within clear, credible and predictable limits for fiscal policy
2. Closely align budgets with the medium-term strategic priorities of government
3. Design the capital budgeting framework in order to meet national development needs in a cost-effective and coherent manner
4. Ensure that budget documents and data are open, transparent, and accessible
5. Provide for an inclusive, participative and realistic debate on budgetary choices
6. Present a comprehensive, accurate and reliable account of the public finances
7. Actively plan, manage and monitor budget execution
8. Ensure that performance, evaluation and value for money are integral to the budget process
9. Identify, assess and manage prudently longer-term sustainability and other fiscal risks
10. Promote the integrity and quality of budgetary forecasts, fiscal plans and budgetary implementation through rigorous quality assurance including independent audit.

2. Economic management: Standards and scope

In drafting the principles, the SBO emphasised economic purposes of budgeting. Managing budgets within clear fiscal limits is the first principle listed. The preamble to the Recommendation states that, “sound and appropriate macro-economic management

including responsible fiscal policies and further structural reforms are all essential for achieving robust, resilient and inclusive growth, taking into account rising inequality”, and that, “as a primary instrument for implementing fiscal policy, the budget thereby has a significant influence upon the management of the economy as a whole”.¹³ It also mentions that the content is motivated in part by “the extensive body of analysis that has been conducted under the aegis of the OECD and other national bodies and international organisations on matters relating to budgetary governance, and in particular upon the analytical insights and researches arising from the global economic and financial crisis that has prevailed over the past number of years across many Members”.¹⁴ In the presentation at the June, 2014 SBO meeting, the principle of managing within clear, credible and predictable limits for fiscal policy was described as “the starting point”, for “without it, all other policy objectives suffer”.¹⁵

The term “fiscal policy”, however, could have different meanings, representing different purposes. In economic terms it once meant the effect of the budget balance on aggregate demand; and that meaning is evident in the text and other OECD work. But some might read “clear, credible, and predictable limits for fiscal policy” as equivalent to “balance” – a term that is not directly in the principles. Balance here would not mean equal taxes and spending, but a combination of spending, revenues, and borrowing that is predicted, desired, and in some sense stable.

As Irene Rubin writes, “a budget may technically be balanced by borrowing”.¹⁶ In the European Union context, and thus as a broad norm among OECD countries, limits on fiscal policy (and so an appropriate balance) have come to mean something like the Maastricht standard: that deficits not exceed 3% of GDP and debt not exceed 60% of GDP.

The fiscal crisis revealed that sometimes economic policy should violate these norms, so the principle as stated is general enough to allow both prudent household management and responsive macroeconomic management. The preamble defines “sound fiscal policy” as “one which avoids the build-up of large, unsustainable debts, and which uses favourable economic times to build up resilience and buffers against more difficult times, so that the needs of citizens and stakeholders can be addressed in an effective and enduring manner”.¹⁷ The Recommendation thereby defines a leaning against deficits as a form of prudential conservatism: that approach in good times *would limit the risks of running* (and so enable) counter-cyclical deficits in bad times.

One might have some doubts as to whether this prudential approach is always either necessary or effective. The main risk of deficits is that they would lead to large interest costs, due both to the increase in principal and market demands for higher interest rates. The cases of Japan and the United States (which were relatively “bad actors” before the slump but have borrowed rather easily) and of Spain (the reverse), suggest that budgetary caution before a slump is not the only determinant of budgetary running room during it.¹⁸ Nevertheless, the recommended approach resembles traditional Keynesian economics.

The Recommendation therefore provides a much more moderate view of the economic purposes, or goals, of budgeting than is normal within the US federal budgeting establishment. Many former senior US budget officials from both parties, gathered in the Committee for a Responsible Federal Budget, have elevated the norm of deficit control far above all other values.¹⁹ The Committee even suggested, in 2011, that controlling deficits in 2025 was just as important as avoiding default on the federal debt that year.²⁰

Principle 9 also can be compared to the rhetoric common within the U.S. budgeting establishment today. It highlights the issue of longer-term sustainability, which is frequently framed in the United States as an “entitlement crisis” caused by projected costs of Social Security and Medicare.²¹ But the Recommendation frames the basic concern as “fiscal risks”, including “contingent liabilities”, categories that logically include factors such as housing bubbles or unstable banks. These are matters that the budget establishment in the United States would prefer to de-emphasise, compared to the supposed entitlement crisis.²² The document calls for “a report on long-term sustainability of the public finances, regularly enough to make an effective contribution to public and political discussion on this subject”.²³ This is much more modest than the common claims in the United States, in which the budget leaders involved with the CRFB and related organisations claim policy must guarantee, now, sustainability over a 75-year, or even infinite, time horizon.²⁴

In these ways the Recommendation strongly prioritises a vision of responsible budget totals, but the *standard* is more moderate than is common among budget elites in the United States, or perhaps was common before the crash in other OECD countries. This looks like learning from recent experience. The same experience, however, helps explain why the principles recommend a particularly wide *scope* for managing budget totals.

Hence the preamble to the document declares that, “budget systems and procedures should be co-ordinated, coherent, and consistent across levels of government in the interests of facilitating a comprehensive national overview of the public finances”. Principle 3 calls for a “national framework for supporting public investment” that would include “co-ordination of investment plans among national and sub-national levels of government”.²⁵ The co-ordination of investment plans in particular may seem problematic to subnational officials, who have their own interests, constituencies, and in some cases financing. But the document’s view of public finances can be justified in part from the experience of the economic slump in which, as OECD’s summary of national responses reported in 2012, many central governments (CGs) at first subsidised subnational governments (SNGs) “to avoid them carrying out pro-cyclical policies”. As central governments then turned to “fighting to reduce their deficits and debt”, this “reversal” was “particularly difficult for SNGs, still reeling from the consequences of the crisis and now watching the special measures taken by the CGs peter out”. As a result SNG debt rose in almost all countries and in some (especially Spain) it rose “beyond what is permitted by self-imposed or central government rules”.²⁶

The Recommendation recognises that national political systems vary, and one must hope the authors understand that, in some countries, the desired co-ordination is at best unlikely. The US constitutional system is not designed to allow the national government to co-ordinate with, or even predict, state governments in any effective way. Nevertheless even in the US national policy-makers can adapt their policies to the likely subnational actions that they do not control, and in 2009 did so.²⁷ In principle, OECD’s advice that national policy-makers pay attention to developments at subnational levels is clearly appropriate. In practice the advice will often be very difficult to follow. One reason is the distribution of blame: if national policy-makers run larger deficits in order to protect subnational governments, national policy-makers may be accused of budgetary “irresponsibility”. More generally, co-ordination requires that officials at different levels of government be on the same team, so that, for example control of governments by different parties does not impede nationally “rational” allocation of resources. That is uncertain in any federal system.²⁸

3. Economic management's implications for process

The first and second principles have further implications for budget processes, by very strongly endorsing a “top-down” approach. This term, “refers to the practice whereby the fiscal targets are determined from the outset of the budgetary process, with annual and multi-annual budgetary policies and priorities subsequently determined in conformity with these overall levels”.²⁹ The first principle calls for “applying top-down budgetary management, within these clear fiscal policy objectives, to align policies with resources for each year of a medium-term fiscal horizon”. The second calls for a “medium term expenditure framework” with “real force in setting boundaries for the main categories of expenditure for each year of the medium-term horizon” that is “fully aligned with the top-down budgetary constraints agreed by government”.³⁰ Hence budgeting should be not only “top-down”, but multi-year.

Understood strictly, true “top-down” budgeting is both a conventional and radical idea. That it is conventional can be seen in its easy acceptance in OECD (and other) work. The ways it is radical can be seen by looking at what it says about the purposes of budgeting.

If budgeting should be “top-down” then the effects of the totals must be much more important than the effects of the details. That is, in fact, the logic of measures such as the US “sequesters” enacted as part of the Gramm-Rudman-Hollings law in 1985 and the Budget Control Act of 2011.³¹

A different view would say that budgets are made up of details (of spending, taxes, and borrowing) which add up to totals. Totals have consequences, but so do details. Within any society, preferences about details are not likely to add up to preferences about totals: normally, voters and their representatives will want to spend more and tax less in a way that yields larger deficits than they desire. At the same time, preferences about totals can easily not allow the details that voters and their representatives want. In this view, *the basic political and policy challenge of government budgeting is to find some acceptable package that balances the conflicting preferences about details and totals.*

Matching details to totals is made especially difficult by aspects of social choice. Each actor, including whoever manages the central budget agency, can usually imagine ways to meet his or her own goal for both details and totals. Most people can identify some spending they do not value, or tax increases which don't affect them so seem acceptable. Spending cuts and tax increases that are accepted by majorities, however, are less common. Thus majorities can easily support a given (more constrained) total while disagreeing about how to achieve it. So they oppose any package of spending cuts and tax increases needed to adjust the status quo to match that total.³²

A traditional budget process will normally begin with guidance from the central budget office, which is based in part on that office's, or hopefully its political authority's, preference about budget totals. But even the guidance might include some sense of what is possible on the details: for example, during a war the guidance to the military is likely to differ from guidance to other agencies. In the traditional budget cycle, after guidance was issued then agency feedback would be reviewed so as to judge if the consequences of constraint on the details were acceptable. The central budget office might choose to ignore details – to just insist that the agencies live with the figures, define that as an opportunity for the agencies to exercise discretion, and perhaps call that “new public management”. But at some point – as in the US sequesters – ignoring the details is at best a distorted approach to policy analysis, and at worst irresponsible.

Dramatic challenges such as wars and the financial crash reveal that consequences on dimensions other than the budget balance will sometimes be more important than the goals for totals. Yet the point may be better illustrated with specific examples. In 1989, balancing the US federal budget by fiscal year 1993 would have required at least USD 100 billion in immediate deficit reduction. This would have been equivalent to abolishing the United States Navy; or to abolishing Medicaid, the Department of Education, Department of Justice, Department of State, Federal Highway Administration, and National Institutes of Health; or to raising the federal income tax by 21%. At the time, there was extensive political pressure to eliminate the deficit by fiscal year 1993. In fact, there was a federal law, Gramm-Rudman-Hollings, which required a balanced budget at least that soon. Gramm-Rudman might be considered, in the terms of the Recommendation, as a “clear and verifiable fiscal rule” expressed as a “medium term expenditure framework”. The deficit reduction it called for was not achieved at least in part because, if a neutral party were to compare the set of costs in my examples to the measurable economic benefits of a balanced budget, the “tough choice” could legitimately seem like bad policy.³³

In practice, the Recommendation’s emphasis on top-down fiscal management implies that the effects of small variations in deficits are more important than they are likely to be. Given a target, would having a deficit that is higher by one-tenth of a per cent of GDP be so terrible? In the US in 2013 that would have been a bit under USD 17 billion. Abolishing both the Environmental Protection Agency and National Science Foundation would have risen a bit over USD 15 billion.³⁴ Would you abolish both the Environmental Protection Agency and National Science Foundation rather than raise the deficit by that much? If you would not, then maybe you should have some doubts about the idea that totals should be set without reference to the effects on details.

Making top-down budgeting, a fundamental principle cannot be based on data that assesses the overall good or harm done by deficit reduction packages, considering all outputs, because the measures do not exist. At best, making top-down budgeting a principle can only be justified by assuming that there must be some set of details that is substantively acceptable. But that is not obviously true, and in reality must be a political judgment, not one that should be made by fiat without first considering the specific policies needed to meet some fiscal topline.

Perhaps the principles should be read differently. The definition of “credible” limits for fiscal policy could be based not on how binding the topline commitment seems to be, but on the extent to which the topline can be shown to have been constructed based on careful consideration of the details that would be necessary to achieve those totals. This position could be justified with some of the language that explains Principle 2, namely that an MTEF should not only be “fully aligned with the top-down budgetary constraints” and “have real force in setting boundaries for the main categories of expenditure”, but “should be grounded upon realistic forecasts for baseline expenditures (i.e. using existing policies), including a clear outline of key assumptions used”.³⁵ We might interpret this language as meaning that medium-term expenditure policies based on no attention to the details whatsoever – as in the 2011 US Budget Control Act – do not meet the SBO’s standards for good budgeting.

Nevertheless, there is little else in the document to suggest that the process of adjusting preferences about details and totals should involve any give-and-take between

the two sets of concerns. The emphasis on “clear and verifiable fiscal rules” is likely to be read as approving measures such as the US discretionary spending caps. If that was not intended, it would be better if the document had said so.³⁶

4. Information and control

Two further purposes of budgeting may be so fundamental as to be taken for granted – yet clearly require effort and attention. These are that budgets be *accurate* and *effective*. Put another way, they require good information and control.

Accuracy includes that projections of spending or revenues which depend on events, such as spending for unemployment benefits, be close to results; that decisions about policies be based on good information about consequences; and that classifications and presentations be meaningful to users of the budget process. Effectiveness means that the budget “turn(s) plans and aspirations into reality”.³⁷

Accuracy requires information, and information concerns permeate the Recommendation. Thus Principle 3 calls for “objective appraisal of economic capacity gaps, infrastructural development needs and sectoral/social priorities”. The “open, transparent and accessible” documents and data for principle 4 require “clear, factual budget reports” that are available throughout the decision-making process. It also requires, “the clear presentation and explanation of the impact of budget measures, whether to do with tax or expenditure”, and gives as an example “a ‘citizen’s budget’ or budget summary, in a standard and user-friendly format”.³⁸ Principle 6 includes that budget accounting should show “the full financial costs and benefits of budget decisions”.³⁹ Principle 8, on performance, evaluation, and value for money, calls for “parliament and citizens” to “understand not just what is being spent, but what is being bought on behalf of citizens – i.e. what public services are actually being delivered, to what standards of quality and with what levels of efficiency”. This requires performance information presented “in a way which informs, and provides useful context for, the financial allocations in the budget report”, and “objective, routine, and regular” review of programmes.⁴⁰ Principle 10 then emphasises that accuracy (integrity and quality) requires both adequate capacity within the Central Budget Agency and line agencies and, often, “independent fiscal institutions or other structured, institutional processes for allowing impartial scrutiny of, and input to, government budgeting”.⁴¹

The care and comprehensiveness with which the principles identify concerns about accurate information is impressive. Yet there are issues about both what is possible and whom these goals serve. Information standards may demand too much – particularly in terms of the ability to measure performance and value for money. In addition, whom should information serve, and who should be in control?

These issues involve technical difficulties, such as how to distinguish between the effects of a programme and environmental factors;⁴² and logical difficulties, such as how to determine if disappointing performance means a programme has been underfunded, rather than being a bad programme. For example, did the difficulties implementing the federal exchanges under the 2010 US health care reform mean the programme should have been eliminated, or that more money and time should have been provided to set up the exchanges? Simplistic application of “performance” budgeting would have, wrongly, suggested the former. Most fundamentally, however, “value” in the sense of efficiency depends on values in the sense of different peoples’ preferences. Two readers of this article may have entirely

different views of the “performance” of the 2010 US healthcare reform, because some care more about expanding insurance and some more about limiting government. The concept of “objective” evaluation and review may be applicable if one stipulates that it only involves the extent to which a policy achieves some pre-specified end – an input/output analysis. That still requires measurement that may not be possible. But there simply cannot be an “objective” statement of the value of the full set of results from a programme.

The dangers of excessive trust in the idea that policy-makers can measure and so agree about performance can be somewhat ameliorated by calling for “performance-informed budgeting” rather than “performance budgeting.” The difference is that the former would rely on the measurements much less in making decisions.⁴³ The Recommendation leans in that direction, as in the call for “performance information... which informs, and provides useful context for, the financial allocations in the budget report”, which seems carefully worded. Moreover, it appears to recognise the danger of over-use when it advises that information be “limited to a small number of relevant indicators for each policy programme or area”.⁴⁴ However, the policy-makers and practitioners who are expected to use the Recommendation as a “useful reference tool”⁴⁵ might not notice the more careful language within the document’s broad emphasis on performance measurement.

Control is emphasised in Principle 7, on budget execution, and in Principle 10, which calls for independent audit by a “supreme audit institution (SAI)”. It is fair to say, as it does, that control should also include “some limited flexibility, within the scope of parliamentary authorisations, for ministries and agencies to reallocate funds... in the interests of effective management”, while also saying that “more significant reallocations... should require new parliamentary authorization”.⁴⁶ Yet the value of “control” from the standpoint of central authorities can also be taken too far.

The Recommendation expresses budget-makers’ traditional distrust of measures that dedicate revenues to specific programmes, declaring that, “for exercising... regulation and control... the use of special-purpose funds, and ear-marking of revenues for particular purposes” should be “kept to a minimum”.⁴⁷ Again, the language includes some room to fudge. The “minimum” could be entirely a matter of judgment so that, for example, dedicating a very large share of revenues to pensions and health care could seem the “minimum” in some countries. Yet most people presumably would read the language as strongly discouraging ear-marking of revenues.

Yet dedicating revenues is one way of creating credible long-term commitments to those programmes. From a voter’s standpoint this might even be seen as control: gaining a guarantee from the government. This is not, however, likely to be the Central Budget Authority’s view. Other OECD budget work has expressed a strong scepticism of such commitments, in the interest of maintaining “fiscal space” or “strategic agility”.⁴⁸ Hence the search for control by limiting special-purpose funds and revenue earmarks makes great sense from a budget controller’s point of view, but not so much from the perspective that budget processes should represent public preferences.

That brings us to the most basic issue about the Recommendation: the understanding of representative government that it promotes.

5. Budgeting and representative government

To repeat the basic question, whom should budget processes serve?⁴⁹ The Recommendation emphasises that good budgeting is a basic part of representative

government. “More than” being “a central policy document of government” and way “to turn plans and aspirations into reality”, the introductory note proclaims, “the budget is a contract between citizens and state, showing how resources are raised and allocated for the delivery of public services... Budgeting is thus an essential keystone in the architecture of trust between states and their citizens”.⁵⁰

The preamble emphasises the importance of “rebuilding trust in government” through “promoting open government and ensuring transparency in policy making”. It further proclaims that, “the national parliament has a fundamental role in authorizing budget decisions and in holding government to account”, adding that, “parliament and citizens should be able to engage with and influence the discussion about budgetary policy options, according to their democratic mandate, competencies, and perspectives”.⁵¹ Principle 5 calls for “facilitating the engagement of parliaments, citizens, and civil society organisations in a realistic debate about key priorities, trade-offs, opportunity costs and value for money”.⁵² Principle 8 calls for the government to “help parliament and citizens to understand not just what is being spent, but what is being bought on behalf of citizens”, with other calls for providing “objective, routine and regular” information.⁵³ Principle 4 calls for “the clear presentation and explanation of the impact of budget measures”, such as in a “citizen’s budget”.⁵⁴

Hence one primary purpose of budgeting is to link citizens and the state in two ways: citizens will know what to expect from and trust the state if they have a good budget process, and there will be public participation of some sort in making the budget. The call for a “realistic” debate, however, raises the question of how a budget process would ensure “realism”. For example, if one of the purposes of the process is “providing clarity about the relative costs and benefits of the wide range of public expenditure programmes and tax expenditures”,⁵⁵ whose judgments should be treated as authoritative?

The draft set of principles seemed to set standards for public participation – that it would be “useful” if guided by the government to be “realistic”.⁵⁶ The final recommendation does not make such statements. Nevertheless, it seems important to acknowledge that governments have biases. Indeed, much of the point of elections is to choose which bias will control the government. Principle 10 calls for independent audit, to help support “the professional objectivity of economic forecasting, adherence to fiscal rules, longer-term sustainability and handling of fiscal risks”.⁵⁷ This does not, however, address the question of who should assess policy trade-offs – which include consequences on policy details, not just budget totals. It might have been appropriate to specify in Principle 5 something like, “Governments should encourage access to information from multiple sources about the relative costs and benefits of policy priorities and trade-offs”.

Yet there is a deeper issue, regarding a view of representation which describes the budget as “a contract between citizens and state”. The contract metaphor raises logical questions: who are the parties, what is the scope of such a contract, and who can break it?

Is there really a united thing called “the government” or “the state” which relates to “the citizens”? The central budget agency and the agencies (or interest groups) frequently disagree about the facts – and the central budget agency, in part because it must serve its executive master, is not always right.⁵⁸ As I discussed above, co-ordinating policies between national and subnational governments may be difficult even if politicians at the two levels are on the same party “team” – and often they will not be. Nor does any policy have fully objective costs and benefits, because different members of the public have

different utility functions. That is one of the basic difficulties with performance measurement, as in the case of the US healthcare reform. Budgeting involves political processes that result in a set of decisions, and assuming that either side of the “contract” is a single actor can blind us to the politics that is basic to budgeting.

The issue of scope of contract is raised directly by decision-making about entitlements or social insurance, in particular long-term promises associated with dedicated revenues, such as pension systems. In the ideal world that is implied by the OECD principles, the budget as contract is re-made each year, or perhaps every few years in a new Medium Term Expenditure Framework as a new government takes office. We have seen that the drafters of the principles, as is traditional in the budget world, disapprove of dedicated revenues and want to maximise flexibility. That is rational if the over-riding purpose of budgeting is to adjust public spending and taxing each year so as to manage the economy.⁵⁹ Yet the major entitlement or social insurance programmes often involve long-term promises and dedicated revenues. Pension systems usually have dedicated revenues (contributions) for good policy and political reasons, and in order to be credible at all must be long-term promises.⁶⁰ The OECD principles carefully avoid the fear-mongering about long-term commitments that is common among US elites. Yet the document does not recognise that there are reasons to be much more cautious about changing some parts of the budgeting “contract” than others.

I do not mean to suggest that social insurance programme “contracts” – or commitments to the bureau versions of such programmes, such as the English National Health Service – are or should be engraved in stone. In the United States, activation of the “reconciliation” process in congressional budgeting, in 1980, improved the process by facilitating, though not guaranteeing, annual consideration of both entitlement programmes and taxes in addition to discretionary appropriations.⁶¹ Yet we can endorse considering all aspects of a budget, the traditional norm of comprehensiveness, while still recognising that there is not and should not be a single budget contract, annually negotiated between citizens and state.

Advocates of the contract view could argue that there is no problem with changing entitlements because any decision made about the budget in any given year is, by definition, approved by the citizens through the political process. The government cannot break the contract, because the citizens must have agreed. This begs the question of why, if that were true, one would even bother distinguishing citizens and state. Yet there is a more fundamental problem with viewing budgets as a contract between citizens and the state.

Both the state (in its varied agencies and levels of government) and the citizens are not unitary. Hence a budget at one level is a treaty within the government, but most basically is a treaty among forces in society. It is a set of terms, worked out through the political process, of how citizens will share a country. **The distribution of costs and benefits is not simply a contract “the government” negotiates with “the citizens”. It is or should be something that the citizens negotiate with each other through politics.**

If a budget is a treaty, then a major purpose of budget processes should be to manage social conflict. The OECD principles do not appear to consider this purpose. It would be unrealistic to expect budget processes to create agreement in badly polarised countries. Yet budgeting can exacerbate underlying polarisation as well.⁶²

The issue here is as much about representation as budgeting. The Recommendation emphasises that budgets should be aligned “with the medium term strategic priorities of government”,⁶³ which has to mean the government of the day. Serving the priorities of the

government of the day may seem like a good operating definition of representativeness. Yet elections are not normally enthusiastic endorsements of a new party's agenda. They are votes to throw out the old bums, not all of the old activities. There are some programmes, such as social insurance or tax policy, that perhaps should be more difficult to change than the ordinary funding of government agencies. As James Madison wrote, "mutability in the public councils" has its disadvantages.⁶⁴ Responsiveness in the form of "stop-go" policies could be one example.⁶⁵

In a divided country, perhaps there is some value to making it a bit difficult for the majority of the day – or, as it often is, the minority in office – to impose its budget preferences on the rest of the country.⁶⁶ Nor should consequences on details be so thoroughly subordinated to supposed macroeconomic effects, through "top-down" budgeting. Nor should expectations based on years of contributions to dedicated funds be viewed as an obstacle to good budgeting. If we see social peace as fragile, responsiveness to short-term preferences may not be such a good thing.

6. Conclusion

The Recommendation shows both continuity with much of budget thinking over the past two decades, and some significant improvements. While it does not reverse the promotion of top-down budgeting that has become ubiquitous, it provides more moderate standards for totals than the standards promoted by many budget elites in the United States. The view of government effects on the economy, with its emphasis on all levels of government, is analytically appropriate though difficult to implement. The discussion of fiscal risks calls for developing appropriate information, while not pretending that any government can make authoritative budget decisions beyond the medium term. Again, this is more appropriate than some common thinking in the United States.

Yet the document also reflects a view of the purposes of budgeting that may be more credible to central budget actors than to observers of modern political systems. It includes not only an excessively top-down approach, but a questionably unitary view of governments and publics. As a result, it is not likely to help policy-makers and practitioners address some of the basic challenges of public budgeting.

One way to see the problem is to perform a thought-experiment. How would the US federal budget system as of 1986 compare to the Recommendation? The US national government did not have much of a capital budget, and what it had was not quite explicitly co-ordinated with subnational governments.⁶⁷ But Gramm-Rudman set clear limits for fiscal policy, in law; budget resolutions set medium-term expenditure frameworks; budget documents were open, transparent and accessible; there was very extensive debate; accounting was quite comprehensive and accurate; at least the best-known long-term risks (due to social insurance programmes) received extensive attention; and there were multiple sources for estimate and audit (OMB, CBO and GAO) which thereby should rank quite highly in any evaluation of budget systems' ability to provide independent and reliable information. In short, while not ideal, US federal budgeting in 1986 should seem, on its face, to match quite closely to the principles in the Recommendation. Yet US budget politics at the time was by other standards nearly disastrous. Deadlines were regularly missed, the effect of the Gramm-Rudman limits was to incentivise fraud, and both elites and masses viewed the process as a mess that certainly did little to encourage trust in government.⁶⁸ The basic problem was deep political disagreement, and the ways in which

the US budget process in 1986 met the principles in the Recommendation did nothing to overcome disagreement.⁶⁹

Perhaps it is relatively easy to ignore the political consequences of budgeting outside the United States. Perhaps it is relatively easy to ignore the challenges of maintaining social peace, or to view “trust” as largely dependent upon clear documents, because the Great Recession, in spite of all the misery it has created, has not led to massive protests and disorder. But it is especially dangerous to forget that budgets are social settlements, reflecting the distribution of stakes in a country. Events haven’t forced budgeters to re-learn that lesson this time. But that does not mean it should be ignored.

Notes

1. One classic statement of this approach is Key (1940). Among many other examples are the Hoover Commission, or Commission on the Organization of the Executive Branch (1949); the massive literature on performance budgeting (Novick, 1965; Schick, 1966; Schick, 2013); and the Progressive-era campaign for the executive budget (Rubin, 1994).
2. For one of many accounts of these linkages, see Burkhead (1956), pp. 13-21. He also emphasises the links to other reforms of public administration.
3. Meyers (1996), p. 175. Judging from my own interviews, neither law significantly changed how the executive budget submissions were evaluated by Congress, or how the legislative appropriations process worked; but they certainly affected routines within the executive branch. Some budget process reforms, such as the 1974 Congressional Budgeting and Impoundment Control Act, appear to be more improvisational, rather than based on a pre-existing body of advocacy research; see Schick (1980). Performance budgeting in its various forms also has changed processes if not outcomes; and in the US case, the executive budget process surely influenced outcomes.
4. The document is OECD (2015). For an introduction to the process through which this document was developed, see www.oecd.org/governance/principles-budgetary-governance-public-consultation.htm. Allen Schick provided a brief review of a closely-related earlier draft at the 2014 Annual OECD Meeting of Parliamentary Budget Officials and Independent Fiscal Institutions, at http://knesset.gov.il/mmm/oecd/Session8_Allen_Schick.pdf.
5. Thus the nearly final draft is OECD (2014a). I was fortunate enough to attend the June, 2014, SBO meeting in Berlin, at which I was introduced to the project and discussion of that draft.
6. This journal is one regular product of that collaboration.
7. OECD works to develop “International norms and standards, best practices, and policy guidelines”, which are then called “OECD legal instruments”. For examples of such reports about budgeting, see OECD (2002, 2012, 2014b). For an overview of the practice see www.oecd.org/legal/legal-instruments.htm.
8. One can already find examples of the 2014 SBO draft being cited, such as in the budget of the Republic of Ireland, *Comprehensive Expenditure Report 2015-17*, Part 3, pages 2 and 3, available at <http://budget.gov.ie/Budgets/2015/Documents/Part%20III%20Evaluation%20and%20Reform.pdf>; or in Mario Marcel, “New Fiscal Transparency Initiatives Are Key to Good Governance” (10/30/2014) posted at <http://blogs.worldbank.org/governance/new-fiscal-transparency-initiatives-are-key-good-governance>. OECD budget work is disseminated further through this journal.
9. OECD (2015), p. 1.
10. See, for example, Axelrod (1988), pp. 7-15; Lewis and Hildreth (2013), pp. 17-23; Rubin (1997), pp. 1-2.
11. For accounts of the moves away from emphasis on demand management and towards encouraging savings, see White and Wildavsky (1991), especially pp. 24-33, 49-56, 259-284, 331-354, and 412-421; White (2003) pp. 73-98.
12. They are summarised in the same form in OECD (2015), p. 3.
13. *Ibid.*, p. 4.
14. *Ibid.*, p. 5.
15. Downes (2014), slide 9.
16. Rubin (1997) p. 4.

17. OECD (2015), p. 5.
18. See Moravcsik (2012).
19. CRFB's Board includes former legislative budget leaders, who would not be participants in the SBO network, but also a substantial contingent of former executive branch officials who held positions similar to those of the members of the SBO group. See <http://crfb.org/about/board>.
20. For further discussion of what I would call budgetary extremism in the US, see Meyers (2014).
21. For an account of the origins of this view and why one should be sceptical of the merits, see White (2003). The concern itself is simply a commonplace, asserted in all sorts of contexts. For one example, in an attack on the 2010 health reform legislation, see Holtz-Eakin and Ramlet (2010).
22. Some economists, such as Dean Baker (2012), have argued that it is illogical to worry about future costs of entitlements at a time when large deficits were created by the collapse of a housing bubble that, in turn, was a response to deeper economic conditions. In contrast, the CRFB expresses little attention to the housing bubble as a cause of deficits, and it has essentially argued that the "deficit bubble" is more important – even though the deficits at the time were largely caused by the bursting of the housing bubble, while the long-term deficits would have much less immediate effects than those of the housing collapse. For an example, see Frenzel and Panetta (2008).
23. OECD (2015), p. 10.
24. Arguably, the United States already does all the reporting for which anyone could reasonably ask, with annual reports from the Board of Trustees of the Social Security and Medicare programmes, an annual report from the Congressional Budget Office (e.g. CBO 2014), and occasional reports by the Government Accountability Office.
25. OECD (2015), pp. 5, 7.
26. OECD (2012), p. 259.
27. State balanced budget requirements are likely to limit variation in state policies over the medium term (two or three years, not one) in spite of the many holes in those requirements; for one account of those holes see Briffault (1996). The 2009 American Recovery and Reinvestment Act (ARRA) was designed in part to prevent a portion of expected state budget cuts (Oliff et al. 2009), and those cuts could be expected in part because of those balanced budget requirements. While the measures in ARRA may have been inadequate, and some policy-makers opposed even those measures while others prevented further action, it would not be accurate to say that budget policy at the national level in 2009 paid no attention to budgeting at the state level.
28. Consider conflicts over the Canada Social Transfer or Commonwealth of Australia support of state hospital systems, which can be exacerbated when different parties control a major state (e.g. Ontario or New South Wales) government and the national government. For that matter, consider Catalonia and Spain.
29. OECD (2015), p. 5.
30. *Ibid.*, p. 6.
31. See White and Wildavsky (1991) on Gramm-Rudman; Meyers (2014) on the Budget Control Act.
32. This argument is made in more detail in White (1998a). For a similar explanation of social choice in budgeting, see Downs (1960).
33. White and Wildavsky (1989). That article also discusses a more complex set of alternatives generated by Joseph Minarik and Rudolph Penner, who in doing so also discovered the basic problem that the costs on the details could easily seem greater than the benefits from budget balance.
34. The projected calendar year 2013 US GDP as of October 30, 2014, was USD 16.8 trillion; see US Department of Commerce (2014), Bureau of Economic Analysis, p. 8. The enacted appropriations for the two agencies for Fiscal Year 2014 (October 1, 2013 -September 30, 2014) were about USD 15.4 billion; see Office of Management and Budget (2014) Table S-11.
35. OECD (2014), p. 2.
36. One could imagine a long article on another issue, whether or when "clear" rules could calm financial markets by creating "credible commitments". Since commitments to destructive policy such as the original Gramm-Rudman sequesters will, at least some of the time, not be met, the idea that clear rules about totals (e.g. in a Medium-Term Expenditure Framework) that cannot be met with plausible details will satisfy financial markets may, in such cases, require budgetary ignorance on the part of financial market participants. This may be a reasonable assumption but,

- on the whole, is not one on which policy-making should rely. For further discussion, see White and Wildavsky (1989), pp. 17-19, and sections on both markets and Gramm-Rudman in White and Wildavsky (1991).
37. OECD Public Governance and Territorial Development Directorate (2015), p. 1. For the classic analysis of situations in which budgets were neither accurate nor effective, see Caiden and Wildavsky (1980).
 38. OECD Public Governance and Territorial Development Directorate (2015), p. 7.
 39. *Ibid.*, p. 4.
 40. *Ibid.*, p. 9.
 41. *Ibid.*, p. 10.
 42. A problem that is especially evident in attempts to measure the performance of schools, which depends on far more than what happens in the schools. For one of many critiques see Ravitch 2013. A parallel case is the effort to “pay for performance” by health care providers, also subject of a massive literature.
 43. See Anderson (2012); White (2012); Schick (2013).
 44. OECD (2015), p. 9.
 45. *Ibid.*, p. 1.
 46. *Ibid.*, p. 9.
 47. *Ibid.*, p. 9.
 48. See Hawkesworth and Klepsvik (2013); Marcel (2014); Schick (2009).
 49. One frank, if not necessarily pleasant, answer to the question of whom budget systems should serve is that national budgeting serves outsiders, such as creditors. The draft document proclaimed that, “External stakeholders... look to the quality of the budget document, and of the budgeting process, in assessing the soundness and reliability of a state”. OECD Senior Budget Officials (2014), p. 1. This language is conspicuously absent from the final Recommendation.
 50. OECD (2015), p. 1.
 51. *Ibid.*, p. 4.
 52. *Ibid.*, p. 8.
 53. *Ibid.*, p. 9.
 54. *Ibid.*, p. 7.
 55. *Ibid.*, p. 8.
 56. “Since governments have finite resources at their disposal, budgeting is concerned with identifying priorities, assessing value for money, and making decisions. Parliaments, citizens, and civil society organisations can contribute usefully to the budget process when they become engaged in a realistic debate about difficult trade-offs, opportunity costs, and value for money. Governments should facilitate this useful engagement by making clear the relative costs and benefits of the wide range of public expenditure programmes and tax expenditures, and by ensuring that all major revenue and expenditure decisions are handled within the context of the budget process”. OECD (2014), p. 4. The term “useful” especially seems to imply that government could judge the quality of public contributions to debate, so the exclusion of the term from the final Recommendation makes the concern I raise here less significant than it could have been.
 57. OECD (2015), p. 10.
 58. In the US context, prominent examples would include failures to accurately project, or even try to project, the costs of the 2003 invasion of Iraq; and suppression within the Reagan administration of the Centers for Disease Control’s requests for funding to investigate the developing AIDS epidemic; for the latter case see Shilts (1987).
 59. If we ignore for the moment the difficulties of co-ordinating national and subnational policy, especially when governments at the different levels are controlled by different parties.
 60. See White (1998b) for extensive discussion.
 61. See White and Wildavsky (1991) for description and analysis.
 62. For discussions of polarisation and budgeting in the United States, see Mann and Ornstein (2012); White (2009a, b).

63. OECD (2015), p. 6.
64. Madison (1788). See also Max Weber's argument that the dynamism in a market economy depends in part on predictable government policies, such as taxes.
65. Brittan (1971).
66. Governments may represent minorities because of non-voting or because election rules (as is often true in Westminster systems) allow control of the government with less than half of the votes. Then there are the rare cases (as in the United States in 2000) of the winner of the election receiving fewer votes than the loser.
67. Although one should note that much of federal government spending was in the form of allocations to states, and the political process of allocating that money very directly considered effects on state finances.
68. For the most extensive account see White and Wildavsky (1991). Note that being quite visible ("transparent") does not increase trust if people don't like what they see, and people don't like seeing disagreement and conflict.
69. As White and Wildavsky (1991) explains, the Gramm-Rudman-Hollings law was promoted as a way to force agreement by threatening horrible consequences if the medium-term targets were not met. This didn't work.

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