

Needs and prospects for public sector accounting reform: The Japanese experience*

October 28, 2020

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Abstract

Why does the public sector accounting reform take so much time in Japan compared with other countries? The argument for the necessity for reform was made long ago, yet why have the desired results not been seen until now? The aim of this paper is to answer these questions and to find out key to possible effective reform. Based on the survey carried out in 2013 with 786 local authorities nationwide, the author tests the following two hypotheses and reports the empirical evidence to support them; *H1*: there are more examples of financial documents being utilized among local authorities that adopt double-entry bookkeeping compared to those that do not, and *H2*: the response toward financial documents differs depending on the size of the local authority. These empirical results suggest that in the provision of public sector accounting information of clear utility, the issue of adopting double-entry bookkeeping cannot be avoided, while considering the differences in practical burdens on local administrations, this must be looked at in tandem with a rule that differentiates between different sizes of administration.

Key words: double-entry bookkeeping, local administration, public sector accounting,

* This paper is a revised edition of “Current Issues and Challenges in Public Sector Accounting Renovation: From the Viewpoint of Financial Accounting,” *Accounting (KAIKEI)*, Vol.185, No.5, May 2014, pp.23-39, in Japanese.

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1. Research question and methodology

In Japan, public sector accounting reforms have not been addressed for the last twenty-five years. Finally, the issue is now being dealt with positively. This is because the Ministry of Internal Affairs and Communications has recently set up working groups to look into the establishment of basic standards for financial documents and maintaining fixed asset ledgers¹. The results of this investigation are eagerly awaited.

However, why does this reform take so much time in Japan compared with other countries? The argument for the necessity for reform was made long ago, yet why have the desired results not been seen until now? For reform initiatives, such as the current working groups, to be more fruitful, it is necessary to examine the previous efforts at public sector accounting reform from a 3E (Economy, Effectiveness, Efficiency) perspective and summarize the issues. This study shall proceed by separately reviewing the necessity arguments and the possibility arguments.

The necessity arguments examine the interaction between “aims and methods,” while the possibility arguments observe the interaction between “cause and effects.” Initially, the necessity arguments set out an aim grounded in one particular need and investigated the methods adopted to respond to this need. However, additional objective conditions must be met for the methods adopted to achieve the desired result. The possibility argument is the investigation into the presence or absence of these objective conditions. For example, in seeking to resolve a particular issue, a previously successful method is copied. However, this does not guarantee the desired outcome. This is because the environmental conditions that enabled that method’s success provided different possibilities than the existing ones. That is, should the objective conditions that enabled the aim’s original satisfactory outcome not be present, the issue is unlikely to be resolved using the necessity argument alone, and the possibility argument becomes indispensable.

Otsuka (1966; pp. 40-43) called the interaction between “aims and methods” a teleological relationship, and that between “causes and effects” a causal relationship, and argued that the first scientific cognition of social reality was made possible by the division between the two. Subsequently, Otsuka (1966) emphasized that by means of this methodological step, the unwanted interference of value judgments on scientific cognition could be removed².

This piece, based upon the social science methods called for by Otsuka (1966), shall consider why public sector accounting reform to date has not seen the desired results and ask what measures are possible and necessary for the reform of public finance, which is expected to maintain good performance and be useful and efficient.

¹ Through the establishment of the “Chiho Kokyo Dantai in okeru Zaimushorui no Sakusei Kijun ni kan suru Sagyobukai [Research group into the production standards of financial documents at regional public bodies]” and the “Chiho Kokyo Dantai ni okeru Koteishisandaicho no seibi nado ni kan suru Sagyobukai [Research group into the use of fixed asset ledgers at regional public bodies],” the former of which held its first meeting on September 17, 2013, and the latter on October 1 the same year.

² The social science method called for by Otsuka (1966) is an elaboration by him of Weber’s interpretive method (verstehende Methode).

2. The need for public sector accounting reforms

- Summary of Issues

This section will review the nature of arguments that have been offered until now regarding the need for public sector accounting reform.

The debate pertaining to this issue has been collated in a single publication by the Ministry of Internal Affairs and Communications (2010). According to this, the aims (needs) of preparing the financial documents, that constitute the central issue in public sector accounting reform, can be summarized as being (1) “offering accountability” and (2) “optimizing and adjusting public finance.” More specifically, the aim of (1) is to seek “increase in transparency and greater accountability through the production and publication of financial documents.” On the other hand, the aim of (2) is to seek to “plan the optimization and adjustment of public finances and enhance the management of public finance administration through the effective utilization of information gleaned from these financial documents for the management of assets and expenses, costs and so on” (Ministry of Internal Affairs and Communications 2010: p. 1).³

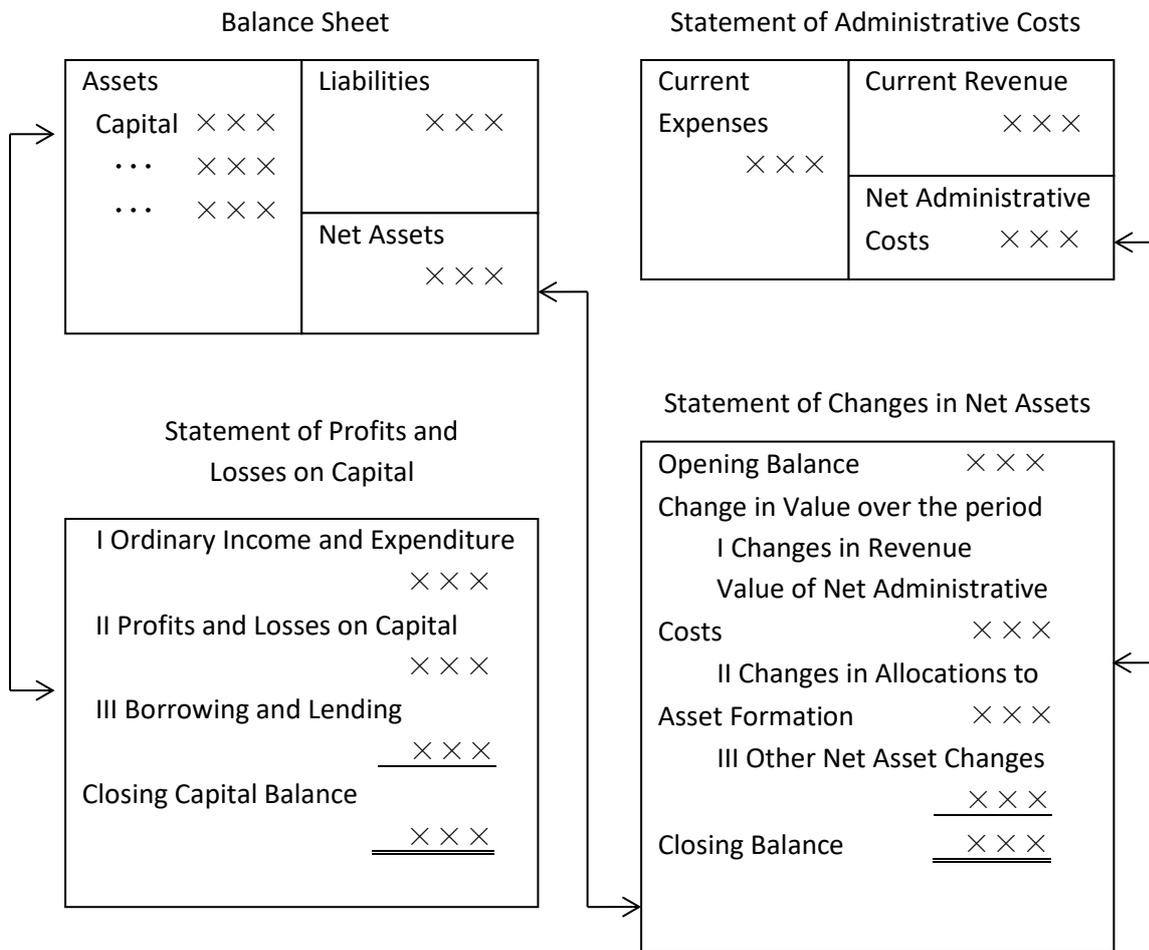
In order to realize the above objectives, a basic model and a revised Ministry of Internal Affairs and Communications model have been developed (Ministry of Internal Affairs and Communications, 2006). Although not legally binding, guided by the government, various local administrative bodies have adopted either of these models and are using them to produce and publish their financial documents⁴. The main difference between the basic model and the revised Ministry of Internal Affairs and Communications model is that transaction details in the former are provided on the basis of double-entry bookkeeping, while in the latter, they are produced from the balance sheet’s statistical data⁵. Therefore, it is the basic model that displays the current technical achievements of the measures that meet the objectives. The organization of financial documents prepared under the basic model is shown in Figure 1. However, the financial documents prepared using the revised Ministry of Internal Affairs and Communications model too are essentially the same as those seen in Figure 1.

³ However, these four financial documents are seen as “complementing” cash accounts (Ministry of Internal Affairs and Communications 2010, p. 2; Ministry of Internal Affairs and Communications 2013c, p. 10).

⁴ However, the adoption of other methods, such as the Tokyo Metropolitan method and Osaka Prefectural method, is also permitted.

⁵ According to the Ministry of Internal Affairs and Communications (2010, p. 11), in contrast to the basic model that “implements double-entry accounting on the basis of data from the accounts bureau, either released or at the end of the period,” the revised Ministry of Internal Affairs and Communications model “implements accounts on the basis of balance sheet statistics at the end of the period.”

Figure 1: The interrelations of the four financial documents



The four financial documents are the balance sheet, the statement of administrative costs, the statement of changes in net assets, and the statement of profits and losses on capital⁶. They have the following relationship with one another. (1) The figure for capital given on the balance sheet should match the period-end capital balance on the statement of profit and loss on capital. (2) The figure for net assets on the balance sheet should match the period-end statement on changes in assets. (3) The figure for net administrative costs on the statement of administrative costs should match that for net administrative costs on the statement of changes in net assets⁷.

To sum up the above, through the public sector accounting reforms, the stated “aim” is to provide accountability for performance, and improve and optimize financial administration. The “means” to

⁶ The Ministry of Internal Affairs and Communications (2010) offers the following three benefits of producing these financial documents: ① an accurate grasp of administrative costs through producing them; ② an overview of total assets and liabilities; and ③ a handle on the connections between financial affairs.

⁷ This structure of financial documents has its basic framework in common with the old public service corporation accounting standards (1985 Standards). Therefore, in order to link the balance sheet and the statement of profit and loss on capital, a compound transaction (the switch of capital and non-funds) for transactions and accounting is essential. On the calculational framework of the basic model, see Miyamoto (2007). On the calculational framework in the old public service corporation accounting standards, see Fujii (2011).

achieve this goal is through the application of the basic model or the revised Ministry of Internal Affairs and Communications model, which mandate the generation of these four financial documents.

3. The state of public sector accounting reform

How have the interrelations between “aim and method” (the tautological relationship) in public sector accounting reform (re)clarified in the previous section been dealt with in practice? In this section, this issue shall be investigated through the results of a survey (Yamamoto et al., 2013). This survey consisted of 32 questions (excluding those that profiled the respondent and the authority) and was carried out in January 2013 with 786 local authorities nationwide, from whom 459 responses were received (a response rate of 58.4%).

Table 1: Summary of the results of the survey

The questions		The number of respondents who “Agreed” (%)
1 Degree of awareness regarding reform aims	1.1 Need for an increase in transparency and accountability toward residents.	91.5
	1.2 Importance of improving the efficiency and utility of public finance.	88.9
2 Reasons for producing financial documents	2.1 Their production and publication are itself significant.	48.5
	2.2 Because the government directed them and other local administrations are producing them.	66.4
3 Utilization of financial documents	3.1 In investigating the setting of financial administrative targets.	8.8
	3.2 In setting the budget.	6.3
4 The role of balance sheet statistics	4.1 Have adopted the revised Ministry of Internal Affairs and Communications model.	81.1
	4.2 The comparability of balance sheet statistics is exceptional.	80.2
5 Propositions to improve the system	5.1 The production of consolidated financial documents should only be required of local administrations of a certain size.	18.0
	5.2 Other approaches are required in order to increase accountability and improve the efficiency of financial administration.	55.8

(Note 1) 459 responses (a response rate of 58.4%)

(Note 2) The questions were based on a 5-level Likert scale, so the responses that mention “I partially agree” have been amalgamated with those stating “I agree.”
“Other positive responses such as “utilizing” have been recorded here as “I agree.”

(Source) Adapted from Yamamoto et al. (2013)

Of the 32 questions, 22 of them deal with the topic under discussion here⁸. Table 1 displays a summary of the responses to the most important of these questions⁹. The 22 questions were on a 5-level Likert scale, so “I partially agree” has been combined with “I agree.” Furthermore, in order to simplify the table, other positive responses such as “utilizing” have been listed here as “I agree.” The most striking observation is that the level of awareness regarding the aim (need) for public sector accounting reform is conspicuously high. About 90% of local administrations also answered that the aims relating to accountability and to fiscal administration were “important.”

However, the utilization of financial documents presents a contrasting situation. Less than 10% of local authorities responded that they were utilizing the documents in either fiscal administration or budget making. That is, despite sufficient understanding of the need for public financial reform, this is not being translated into desired results.

The above fact shows that no matter how often the current need (only) for public sector accounting reform is voiced, it shall not translate into actual reform any more than at present. The teleological relation in the public sector accounting reform issue does not function as anticipated in achieving results. That, effectively, is the reason that the progress of reform is obstructed, or in other words, reform’s negative causal relation widely lurks in practice.

I would like to focus on the following points to provide clues in identifying the reasons that cause obstruction in the progress of reform. First, in response to the question regarding why they produced financial documents, over 60% of local administrations answered, “because it was directed by the government and other local administrations are producing them.” Responses stating “their production and publication are itself significant” reached 50%. That is, many local administrations have no incentive to produce these financial documents.

Second, over 80% of the local administrations had a high opinion of balance sheet statistics. As many as 80.2% of the local administrations answered that “the comparability of balance sheet statistics is exceptional.” As the adoption of the revised Ministry of Internal Affairs and Communications model is premised on the use of balance sheet statistics, the fact that 81.1% of the local authorities use this model implies that the current use of balance sheet statistics already serves as a useful source of information.

Third, in response to the question of suggestions regarding the system, there were a certain number of local administrations who supported a different plan or a different approach. This response indicates that the level of practical engagement with the system of financial documents varies with the scale of the local authority. In order to develop an efficient system, it is necessary to consider this factor as well.

⁸ The other questions deal with aspects such as the importance of indexing or demand for open questions, and are irrelevant to the following statistical analysis.

⁹ However, the questions and responses listed in Table 1 have been altered, though not to the extent of changing the meaning. This applies also to the preliminary investigation of the hypotheses carried out in Section 5.

4. The prospects for public sector accounting reform

- Hypothesis and Suggestions

(1) The factors preventing public sector accounting reform

Expanding on the data gathered above, despite the high level of awareness regarding the practicalities of the aim (need) for public sector accounting reform, the reason this is not producing anticipated results is that there is no practical benefit of greater utility (in terms of the value of the information provided) being offered by the financial documents than is already provided in the balance sheet statistics currently used. Therefore, this should be seen as the primary reason for the absence of any practical incentive to promote reform.

Why, then, are the financial documents not providing greater practical utility than the current balance sheet statistics? The results of the survey could be interpreted as showing the cause as being a disadvantage in terms of comparability. However, it is the opinion of this author that, more fundamentally, the primary reason is that there is no value (in terms of an ability to display the current situation) in extracting numbers from balance sheet statistics and merely appending them under headings in financial documents, as these numbers will have no practical meaning. This is the primary theoretical hypothesis of this paper's investigation. To expect numbers derived from merely rearranging a balance sheet's statistical data to increase the utility of that same data should be considered "excessively" demanding in the first place¹⁰.

Another noticeable reason is that the financial documents that rely on the calculation of annual income and expenditure are only put together once the numbers on the balance sheet have been confirmed; hence, they are published long after the end of the accounting year they are dealing with (Usui 2011: p. 110). This issue is fatal for the utility and applicability of financial documents, the importance of which is premised above all else on being able to act on the information in a timely fashion.

In the case of formal accounts, no matter how the figures are aggregated, the essence of the data rests on a record directly correlated to individual actions¹¹. This can be utilized when required in order to trace back an action through the numbers to assess its utility. It is this property of accounts that enables them to "function." As observed in the previous section, the adoption of double-entry bookkeeping to calculate such figures is a prerequisite for producing such financial documents. Although there are not that many of them, I would like to draw your attention to the existence of local authorities already using double-entry bookkeeping for the production of their financial documents.

(2) Proposals to promote public sector accounting reform

Make the use of double-entry bookkeeping mandatory

The Ministry of Internal Affairs and Communications (2010: p.1) notes that if the stated objectives of the reform to "increase transparency and improve accountability through the production and publication of financial documents" and "effectively utilize the information gleaned from these financial documents

¹⁰ However, this is not because of a synergy effect created by reclassifying the data.

¹¹ Without dealing with this issue again, this does, of course, assume an organizational framework within which such recording can be done.

for the management of assets and expenses, costs, and so on” are to be achieved, then, as the above study has made clear, mandating the use of double-entry bookkeeping cannot be avoided. Therefore, this is the first proposal offered by this study in order to make public sector accounting reform possible.

Broadly speaking, this proposal requires altering the current system, which allows for a choice between the basic model and the revised Ministry of Internal Affairs and Communications model, to make the adoption of the basic model mandatory¹². The revised Ministry of Internal Affairs and Communications model is offered so that local authorities adopting it are able to “reform gradually.” In the “manual” prepared by the predecessor of the Ministry of Internal Affairs and Communications (Ministry of Home Affairs, 2000), “simplicity” is recognized as one its main advantages (Ministry of Internal Affairs and Communication 2006: p. 41). Specifically, the reason this model is viewed as “simple” is that it mandates that the financial documents be produced from the balance sheet statistics drawn together at the end of the period.

Therefore, the revised Ministry of Internal Affairs and Communications model can be said to have the character of a temporary measure that make allowances for the practical burdens that local administrations are able to bear. In fact, as shown in Table 1, over 80% of local administrations are producing financial documents in conformity with this model. Hence, it can be argued that the revised Ministry of Internal Affairs and Communications model is, by comparison, far easier to practically introduce. Therefore for that reason, the “simplicity” of this model allows it to be realized.

However, as has been demonstrated in this study, the consideration of approving the use of balance sheet statistics is the major reason why progress in public sector accounting reforms has been stunted. In other words, it is impossible not to criticize this consideration of approving the use of balance sheet statistics if the goal of the reform is the production of financial documents that have the utility noted above.

The introduction of regulations based on size

If consideration were to be given for the practical burden that local administrations can bear, a more appropriate policy would be to seek the introduction of regulations based on the size of the local administration. Specifically, it would be possible to envisage the establishment of a system in which local administrations above a certain size are required to use the basic model, while other, smaller administrations are still able to make use of the revised Ministry of Internal Affairs and Communications model. Therefore, this is the second proposal offered by this study in order to make public financing reform possible. That a measure, which introduced regulations based on the size of the local administration, would be responding to the issue is shown by the results of the survey presented in Table 1.

An additional note regarding the above point is that it is not possible to expect that financial documents produced from the balance sheet will be of greater use than the balance sheet’s statistics. Such kind of financial documents are produced, as the results of the survey show, because essentially “their production and publication itself [has come to be seen as] significant.” Under government guidance, practically all local administrations have come to produce and publish financial documents¹³. Our

¹² To develop this proposal more completely, it would call for the adoption of a system based on either the Tokyo Metropolitan or the Osaka Prefectural method in which double-entry accounting is performed on each release of figures in cooperation with the bureaus of accounts.

¹³ According to the Ministry of Internal Affairs and Communications (2013a), 95.6% of public bodies (1,711 bodies) had produced or were producing financial documents relating to the 2011 financial year. However, a

survey confirmed that 97.8% of local administrations were producing and publishing financial documents using one of the models (with over 80% using the revised Ministry of Internal Affairs and Communications model). Hypothetically speaking, if we understand one aim of reforms to be for “their production and publication to be itself significant,” then this aim has, to all intents and purposes, been achieved. In other words, the revised Ministry of Internal Affairs and Communications model has already served its purpose. However, the awareness that this paper aims to generate is that public sector accounting reform, as the Ministry of Internal Affairs and Communications (2010) notes, cannot be realized if the model that has outlived its purpose just stays there.

5. Preliminary proof of hypotheses

(1) Protocol for verification

In the previous section, two proposals were offered on the basis of the hypothesis that the primary reason for the limited utility of financial documents and the stalled progress in public sector accounting reform was permitting the use of balance sheet statistics. However, the thesis underpinning these proposals remained only a hypothesis. Therefore, if the existence of objective conditions (for example, in traces of their presence) that will enable these proposals to be brought about is not confirmed, it will not be possible to move beyond a framework based upon necessity arguments.

Therefore, this section shall confirm whether it is possible to construct possibility arguments for the proposals in the previous section through an investigation of the following two working hypotheses:

Working hypothesis 1 – There are more examples of financial documents being utilized among local authorities that adopt double-entry bookkeeping compared to those that do not.

Working hypothesis 2 – The response toward financial documents differs depending on the size of the local authority.

Working hypothesis 1 asserts the existence of a correlation between the adoption of double-entry bookkeeping and the utilization of financial documents. If the existence of that correlation is confirmed through the investigation of this hypothesis, it would provide practical support for developing the first proposal as a possibility argument. If the local authorities using double-entry bookkeeping are the ones that have adopted the basic model or the Tokyo Metropolitan method, and those not using double-entry bookkeeping have adopted other models, including the revised Ministry of Internal Affairs and Communications model, then the presence of a statistically significant difference regarding the utilization of financial documents can be verified using a chi-square test on these two aggregations. The responses are aggregated in the same manner as in Table 1. However, responses in which the degree of use could not be determined, or where the respondent did not specify, were removed from the sample. It is possible that this “utilization” of public accounts data is not restricted to that data contained within the financial documents, but as this cannot be confirmed from the responses, this potential discrepancy regarding where the data is found shall be ignored.

On the other hand, working hypothesis 2 asserts the existence of a correlation between the adoption of double-entry bookkeeping and the utility of the financial documents. If through the investigation of this

relatively smaller proportion, only 67.9% public bodies (1,214 bodies) were working on consolidated financial documents.

hypothesis the existence of the correlation is confirmed, it would provide practical support for developing the second proposal as a possibility argument. The size of the local administration shall be represented by its population. The sample shall be divided into two groups at a certain level of population and the presence of a statistically significant difference regarding the utilization of financial documents verified using a chi-square test. The outlines of the sample are the same as those in working hypothesis 1. Answers based on the basic model or the Tokyo Metropolitan method are aggregated as “using double-entry bookkeeping,” while those using the revised Ministry of Internal Affairs and Communications model or any other model are aggregated as “not using double-entry bookkeeping.” Verification of working hypothesis 2 also involves exploring whether there is a statistical difference depending on the adopted division by population. This study assumes 5 divisions with 100,000, 150,000, 200,000, 300,000, and 400,000 people as providing the basis for these groupings, and investigate those 22 responses related to working hypothesis 2 on the basis of each of these 5 divisions.

The investigation of these hypotheses undertaken on the basis of the above protocol was limited by a small sample size as well as the absence of a solidity test. Therefore, I regret that it cannot be considered anything more than a preliminary proof.

(2) Results of the investigation

Results of the investigation into working hypothesis 1 – The survey defined 6 ways in which financial documents were utilized; ① setting targets in financial administration; ② referred to when budgeting; ③ reviewing policy; ④ evaluating the administration; ⑤ administering assets; and ⑥ managing liabilities. Among these, statistically significant difference was observed in ②, ③, ④, and ⑤. For reasons of space, only four results are shown, they are as in tables 2.1-2.4. From these results, we can infer that there is a degree of empirical evidence in support of working hypothesis 1. Therefore, the establishment and assumption of the first suggestion as a possibility argument largely receives empirical support.

However, it is important to be aware that while the investigation in this study clarifies the existence of a correlation between the adoption of double-entry bookkeeping and utilization of financial documents, the existence of a causal relationship between the two remains unclear. The possibility that the majority of those local administrations competent to utilize financial documents are also the ones possessing the technical ability to adopt double-entry bookkeeping cannot be excluded by this study. Further analysis is required regarding this point.

Table 2 The adoption of double-entry bookkeeping and utilization of financial documents

Table 2.1 Is public sector accounting data being used in budgeting?

		Yes	No	Total	
In local administrations that have adopted double-entry bookkeeping	Observed frequency	8	56	64	
	Anticipated value	4.79	59.21		
In local administrations that have not adopted double-entry bookkeeping	Observed frequency	19	278	297	
	Anticipated value	22.21	274.79		
Total		27	334	361	$\chi^2 = 2.8338^*$

* : At a significance of 10%

Table 2.2 Is public sector accounting information being utilized in reviewing policy?

		Yes	No	Total	
In local administrations that have adopted double-entry bookkeeping	Observed frequency	6	61	67	
	Anticipated value	2.77	64.23		
In local administrations that have not adopted double-entry bookkeeping	Observed frequency	9	287	296	
	Anticipated value	12.23	287.77		
Total		15	348	363	$\chi^2 = 4.8246^{**}$

** : At a significance of 5%

Table 2.3 Is public sector accounting information utilized in administrative evaluations?

		Yes	No	Total	
In local administrations that have adopted double-entry bookkeeping	Observed frequency	6	61	67	
	Anticipated value	2.72	64.28		
In local administrations that have not adopted double-entry bookkeeping	Observed frequency	9	293	302	
	Anticipated value	12.28	289.72		
Total		15	354	369	$\chi^2 = 5.0200^{**}$

** : At a significance of 5%

Table 2.4 Is public sector accounting information utilized in the administration of assets?

		Yes	No	Total	
In local administrations that have adopted double-entry bookkeeping	Observed frequency	27	32	59	
	Anticipated value	11.55	47.45		
In local administrations that have not adopted double-entry bookkeeping	Observed frequency	39	239	278	
	Anticipated value	54.45	223.55		
Total		66	271	337	$\chi^2 = 31.1216^{***}$

*** : At a significance of 1%

Results of the investigation into working hypothesis 2 – The results of the 110 division (22 x 5) chi-square test showed statistically significant differences in 16 divisions. These were: ϕ two groupings in response to “their production and publication are itself significant” (if the grouping division was 300,000 or 400,000 people); θ one grouping in response to “the production of financial documents aided in the establishment of a fixed asset register, etc.” (if the grouping division was 100,000 people); ψ two groupings in response to “the production of consolidated financial documents should be limited to local administrations larger than a certain size” (if the grouping division was 100,000 or 200,000 people); ϕ two groups in response to “their production of financial documents is because it was directed by the government and other local administrations are producing them” (if the grouping division was

100,000 or 150,000 people); 5 two groups in response to “utilizing financial documents in setting targets within financial administration” (if the grouping division was 150,000 or 200,000 people); 6 two groups in response to “utilizing financial documents in budgeting” (if the grouping division was 150,000 or 200,000 people); 7 four groups in response to “using double-entry bookkeeping” (if the grouping division was 100,000, 200,000, 300,000, or 400,000 people); 8 one group in response to “other approaches are necessary in order to raise accountability and improve efficiency in managing financial assets” (if the grouping division was 150,000 people). Some of these results are shown in tables 3.1-3.4 below.

Table 3 Correlating the system of financial documents with the size of the local administration

Table 3.1 That the production of consolidated financial documents should only be required of local administrations of a certain size?

		Agree	Disagree	Total	
Greater than 150,000 people	Observed frequency	7	44	51	
	Anticipated value	12.53	38.47		
Less than 150,000 people	Observed frequency	63	171	234	
	Anticipated value	57.47	176.53		
Total		70	215	285	$\chi^2 = 3.9363^{**}$

** : At a significance of 5%

Table 3.2 That financial documents are produced because it was directed by the government and other local administrations are producing them?

		Agree	Disagree	Total	
Greater than 150,000 people	Observed frequency	11	52	63	
	Anticipated value	6.84	56.16		
Less than 150,000 people	Observed frequency	27	260	287	
	Anticipated value	31.16	255.84		
Total		38	312	350	$\chi^2 = 3.8792^{**}$

** : At a significance of 5%

Table 3.3 Is public sector accounting information utilized in budgeting?

		Yes	No	Total	
Greater than 150,000 people	Observed frequency	8	56	64	
	Anticipated value	4.79	59.21		
Less than 150,000 people	Observed frequency	19	278	297	
	Anticipated value	22.21	274.79		
Total		27	334	361	$\chi^2 = 2.8338^*$

* : At a significance of 10%

Table 3.4 Has double-entry bookkeeping been adopted?

		Yes	No	Total		
Greater than 100,000 people	Observed frequency	33	102	135		
	Anticipated value	23.39	111.61			
Less than 100,000 people	Observed frequency	37	232	269		
	Anticipated value	46.61	222.39			
Total		70	334	404	χ^2	7.1707***

*** : At a significance of 1%

It is apparent from the above data that compared to large local administrations, small local administrations: (1) tend not to be disposed to produce financial documents, and are producing them involuntarily (based on ϕ , θ , and ψ); (2) tend not to utilize the financial documents (based on ω , δ , and ϵ); (3) tend not to use double-entry bookkeeping (based on $\bar{\theta}$); and (4) tend to feel inconvenienced by utilizing financial documents for multiple objectives (based on θ). The above trends were mostly revealed when the division in groupings was positioned between 100,000 and 200,000 people¹⁴.

The above trends are those visible in 16 groupings from the study of 110 groups. There may be some debate regarding the interpretation of these results. Working hypothesis 2 also requires further analysis. With that qualification in mind, concluding that the establishment and assumption of this second suggestion as a possibility argument receives a degree of empirical support from the above is acceptable for the time being¹⁵.

6. Conclusion

As far as has been verified by the study, the reason that public sector accounting reforms have not until now seen the expected improvements is because the system for encouraging the adoption of double-entry bookkeeping has been excessively lenient. In the provision of public sector accounting information of clear utility, the issue of adopting double-entry bookkeeping cannot be avoided. However, considering the differences in practical burdens on local administrations, this must be looked at in tandem with a rule that differentiates between different sizes of administration. The results of the investigation in this study provide clear empirical support for establishing these two propositions as possibility arguments, although with some qualifications.

¹⁴ In this context, on August 31, 2006, the undersecretary for the Ministry of Internal Affairs and Communications had announced that it was required for cities with populations less than 300,000 people to “introduce either the four financial documents or the publication of data necessary for producing such documents within five years.”

¹⁵ Regarding responses on the adoption of double-entry bookkeeping, the significant statistical difference in the four division survey is noteworthy. It demonstrates that the adoption of double-entry bookkeeping remains a difficult barrier to cross for smaller local administrations. If attention is paid to this point, it can be said that possibility of discussion would not come into existence if all the municipalities would be uniformly mandated to adopt a single model.

Therefore, the two propositions above have for the present answered, although not comprehensively of course, this study's research question, "what measures are possible and necessary for a reform of public finance, which is expected to maintain good performance and be useful and efficient."

Nonetheless, the above is clearly a conclusion that focuses on the desired results (see Section 2) of the reforms. Whether these "results" are appropriate as goals to be part of the new system is an issue that should be investigated separately. As noted above, today almost all local authorities have come to produce and publish financial documents. Without the provision of the revised Ministry of Internal Affairs and Communications model, this "result" would probably not have been possible. As the first step in public finance reform, perhaps we can say this is a "result" that should be applauded.

7. References

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