

# Governance of the Management of Public Debt in Japan\*

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## Abstract

This paper deals with the issue of Japan's public debt, particularly from a governance perspective. Japan's public debt continues to follow a rising path mainly due to the fact that, in the harsh economic climate the country has experienced since the 1990s, the government has ended up increasing public sector spending in order to support the Japanese economy. Yet when we look back over these events, this is not the only problem; there are also concerns over whether the system has the rules and institutions necessary to deal with such a situation. Even if temporary measures are taken to alleviate a particular burden, there is no guarantee that financial discipline can be maintained in the long term if there are weaknesses in the system of governance.

There are problems first of all not only with public debt management, but also with the regulations which apply to government actions themselves. Since public debt obligation is one of the government's concerns, the roots of any problems with governance are to be found within faults in regulations relating to the government itself. Recent New institutional economics has been fruitful in analyzing the government's internal organizational structure and identifying its characteristic lack of commitment.

Using these concepts to look at Japan's situation, we can see that it is characteristic that both the burden of debt is distributed among a variety of departments and that capital allocation and decision making are determined by mutual relations among those departments. If we were to trace the source of debt repayment capital, we would probably find that the burden

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is borne in the last resort by general accounting. It cannot be denied that such a system could lead to a weakening of commitment to repayment on the part of the department using the funds. Furthermore, a system in which a number of different departments are involved in decision making would lead to characteristic problems with governance.

The basic policy for dealing with possible failure in governance with regard to public debt is to ensure there is a correspondence between authority and responsibility. Specifically, where you have the authority to incur debts, you have the responsibility to pay off those debts, and where repayment proves difficult, this also remains your responsibility. Where there is a possibility that full responsibility cannot be taken, then part of the authority should perhaps be returned to central government. This paper will consider corporate default legislation as a means of dealing with the former question, and the possibility of general debt management as a means of dealing with the latter.

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## I. Introduction

Japan's public debt continues to increase. This is due not just to the issuing of government bonds, but to increases in municipal bonds and other kinds of public debt. The main reason for this is that the public sector has been supporting the Japanese economy throughout the harsh years following the collapse of the economic bubble. However, taking this into account, if we look back over the process which led to this swollen debt, we are left with the impression that there are no guarantees that the system regulating public debt has adequate support.

This paper argues that this is the current state of governance of public debt in Japan. When we talk of public debt, it is not only the management of debts accumulated in the past that is important, but also the management of the stock of national assets. However, if there is a problem in governance of the flow of new debt burden, even if the debt can be controlled by temporary measures, there is the possibility that the debt will continue to increase unnoticed in the long term unless there is greater discipline.

In general, as far as Japan's public sector is concerned, which organizations have authority over and responsibility for which parts of Japan's public debt burden remains unclear. There are so many divisions and distinctions that there is always the possibility that governance will be ineffective. This tendency is not surprising when you consider the characteristic "vertical structure" of Japan's political organization. There are concerns that the recent spate of decentralizations and privatizations, with reform of the Fiscal Investment and Loan program, local government fiscal reform, and privatization of the postal service, has served to further exacerbate this situation.

The issue of governance arises in reference to the question of how public sector debt

obligations should be met. In traditional economics, the government is generally assumed to play an overall, neutral role in rectifying market failures; the government is seldom seen itself as the subject of controls. However, a framework has been developed for considering questions of “government governance” in the light of public choice theory’s idea of the possibility of “government failure”, new institutional economics’ analysis of organizational behavior, and theories of corporate governance.

If there is a possibility that governance of Japan’s public debt is, or could become ineffective, the fundamental solution is to ensure correspondence between authority and responsibility with regard to public debt. Specifically, if one has the authority to accumulate debt, one should also have the responsibility to repay that debt, or for the fact that the debt cannot be repaid. On the other hand, if there is the possibility that the responsibility cannot be fulfilled, at least some of the authority should be returned to central government which has ultimate authority over the public sector.

The argument of this paper will proceed as follows. Firstly, we will provide a conceptual reassessment based on economic theories of not only the question of public debt, but of difficulties with control of government actions in general. The fruits of new institutional economics’ ‘Organizational Economics’ will be particularly important in this. We will then outline Japan’s public debt situation from a governance perspective. We will see the complexity of capital movement between government departments, and further, how a number of different departments are involved in decision-making and dealing with public debt. This situation can make governance of the public sector, which is from the start not easy, still more difficult. Finally, if there is a separation of authority and responsibility over public debt burden, we will consider what possible solutions there are to this problem. We will outline a means of identifying responsibility through ‘Public Body Default Legislation’, and ‘Centralized Debt Management’ as a means of returning some authority to central government.

## II. *Difficulties with Government Governance: Theoretical Background*

The fundamental issue addressed by this paper is the regulation of public debt, but we must begin with the difficult question of the regulation of public bodies themselves. Fulfilling debt obligations is one of the activities of public bodies, and the difficulties with their regulation are rooted in the difficulties of regulating the government.<sup>1</sup> We will now survey the theoretical background to this issue of regulation of government, or as it has become known in recent parlance, government governance.

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<sup>1</sup> We use the term “government” in a broad sense, equivalent to “public body” or “public sector”.

## II.1. *The View of Traditional Economics*

### II.1.1. *'Benevolent' government*

It is relatively new for economics to analyze thoroughly the activities of government. Although problems were evident, the analysis of public policy, including politics and bureaucracy, remained largely part of political science and public administration until the 1950s. Traditional economic analysis assumed government to be benevolent and supportive of overall economic advance as far as the market mechanism was concerned, and government action itself was rarely the core subject of analysis. Even Keynes' theories were based on the premise of 'wise' government (the so-called Harvey Road presuppositions). Although it was commonly held that government existed to provide a social welfare function to compensate for market failures, the concept of government failure hardly featured.<sup>2</sup> In reality, government actions are not without effect upon economic mechanisms. There has been a gradual increase in studies which show that government does not necessarily act so as to maximize well-being of the economy in general.

### II.1.2. *Public choice theory*

Since the 1960s, Public Choice Theory, as pioneered by Buchanan and Tullock, has rapidly developed in its analysis of public sector activity including that of government and political parties. According to Public Choice Theory, whose main interest was in public policy process, the groups at the center of policy decision making were, 1. the citizens, 2. parliament, 3. the administration, and 4. pressure groups. The basic position of Public Choice Theory is that parliament and the administration have their own agendas which might not necessarily be in the interest of society as a whole and which may cause them to act in a self-interested manner. Public Choice Theory has greatly advanced our understanding of the workings of the public sector. In particular there has been valuable research in such areas as public sector rent-seeking (Tullock, 1967); the political background to economic cycles (Nordhaus, 1975, etc.; Buchanan, 1980; etc.); bureaucratic budget maximization theory (Niskanen 1971, 1975, etc.); policy making in a multi-party system; and government spending's 'fiscal illusion'.<sup>3</sup>

The Public Choice Theory approach has provided many fruitful analyses and continues to be an important area of research. On the other hand, because it provides strong normative analyses of particular phenomena, it is now considered to be unable to provide an adequate framework for a unified analysis of changes in resource allocation. Many argue that it is essential for Public

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<sup>2</sup> The neo-classical based Chicago School, which placed total faith in the market, was opposed to any government intervention in the market since they believed this to be harmful. Their opposition to intervention stressed technical factors such as knowledge and response lags.

<sup>3</sup> There is a range of literature surveying the results of Public Choice Theory. See for example, Mueller (1989), and Yokoyama (1995).

Choice Theory to present a unified theoretical framework.<sup>4</sup>

## II.2. *Recent Theoretical Developments – New Institutional Economics*

New Institutional Economics attempts to provide a unified analysis of government action from the perspective of transaction cost, asymmetry of information, incentives, and so on.<sup>5</sup> New Institutional Economics begins by focusing on the behavior of organizations and the rationality of systems, and as such is ideal for studying the actions of government.

### II.2.1. *The contract theory approach*

Recent economic theory has moved its focus from an analysis of the market price mechanism to the study of contracts and organizations, since it is argued that, “the question of bureaucratic organization and the regulation of public corporations is one of the central topics of recent organization theory.” (Yanagawa, 2000). At the center of this movement is New Institutional Economics.

New Institutional Economics provides a number of approaches to the analysis of government, but a common thread is the presupposition of the individual rationality of bureaucrats and politicians. One approach uses a contract theory method assuming a principal-agent relation under asymmetry of information. In general, under circumstances of an asymmetry of information, there is the risk of moral hazard or adverse selection when the principal puts his trust in the agent, since he does not have adequate knowledge of the agent’s effort and ability. It is therefore necessary to draw up a contract under which the agent will act in the most appropriate way. But in reality, it is difficult to draw up a contract which takes into account all possible eventualities and ensures clarity of judgment. The study of such ‘imperfect’ contracts has recently been gaining ground.

### II.2.2. *Transaction cost economics*

Within New Institutional Economics, it is Transaction Cost Economics which has particular interest in the “organizational form” of government activity. Oliver Williamson, who promoted the idea of Transaction Cost Economics, described the theory as an example of conflict within physical systems. There are a number of sources of transaction cost, including the members of the organization itself (bounded rationality, etc.), and the nature of the capital used in the

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<sup>4</sup> See for example, Yamada (2004), etc.

<sup>5</sup> The question as to why organizations exist has been important, especially for New Institutional Economics, since the publication of Ronald Coase’s *The Nature of the Firm* (1937). For Coase’s own approach, see Goto, et al. (2004).

activity.<sup>6</sup>

The fundamental idea of Transaction Cost Economics is that “when transaction costs can be cut, not through market pressure, but from within the organization itself, this becomes the very *raison d’être* of the organization.” In contrast, neo-classical economics begins by assuming that, in the perfect market, transaction costs are zero, and so has little interest in the nature of institutions. Transaction Cost Economics analyzes the workings of organizations and institutions using the basic concept of transaction cost. From this position, provision by government is justified when the government can cut transaction costs internally rather than relying on external agents.

### II.3. Government Governance

#### II.3.1. Corporate governance and government governance

As we have seen above, “government failure”, where the government does not necessarily act so as to maximize profits across the whole economy, is becoming a widely accepted idea within economics.<sup>7</sup> It has been a great advance to be able to deal explicitly not only with government failure through lack of competence, but also with the question of incentives and problems with the system itself. It is only natural that questions of “governance” arise where there is the possibility of “government failure”.<sup>8</sup> However, governance of a public organization such as the government may be more difficult than that of a private enterprise. Meeting debt obligations is an important part of government activity, but the problem of governance with respect to public debt is rooted in the problem of regulating government itself. Let us now turn to the question of “government governance”.<sup>9</sup>

It is not only government, but organizations in general which are difficult to regulate. This is clear from looking at the wide range of studies carried out under the heading of corporate governance. The field of corporate governance seeks to discover the appropriate means of regulation by dividing those involved into groups such as stockholders, creditors, managers, employees, etc. Theories of corporate governance can shed much light on the problem of

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<sup>6</sup> More specifically, 1.human factors (bounded rationality, opportunism, etc.), 2.trading factors (the nature of the capital, uncertainty or complexity, frequency of scale of transactions, etc.), 3.fundamental factors (unequal access to information, institutional environment or atmosphere), etc. There are surveys of Transaction Cost Economics by Williamson (1985), Oritani (2001), etc.

<sup>7</sup> For example, Kato (2003) sees the causes of government failure as 1. systematic failure and limited influence; 2. the possibility that government involvement itself makes matters worse through cognition lag, etc.; and 3. the pursuit of profits by those involved in policy making after the manner of Public Choice Theory.

<sup>8</sup> The widespread use of the term “governance” is a relatively recent phenomenon, but without a strict definition of the term it has been used with a wide variety of meanings. It is used here to mean “control” or “regulation”. See Miyakawa, Yamamoto (eds.) (2002, pp.10–16), and Kondo (2003, pp.1–7) for details of the definition the term.

<sup>9</sup> For a collection of literature on government governance see Honma (ed.) (2001).

government governance. However, due to the factors given below, there are many more difficult areas when it comes to government governance than with corporate governance.

### II.3.2. *Reasons for difficulties with government governance*

#### (1) Lack of commitment

The government cannot keep its own promises: the deepest problem arising from the nature of government.<sup>10</sup> The issue of commitment has recently become an important concern not only in the government sector but also in Contract Theory, for example. The issue arises in situations where there is an incentive not to fulfill the original terms of a contract, and can arise in almost any field. However, if a private enterprise continues to break its promises, it will lose its own business opportunities and eventually face bankruptcy. In comparison, government, and especially central government, basically never believes it could face liquidation. From the very start, government has legislative power or the authority to impose taxes, so they themselves can move the goalposts. For a government with almost no possibility of bankruptcy, and in the final analysis, the power to renege on its own pledges, there are only limited penalties for breaking promises.<sup>11</sup> This question of a government's lack, or possible lack, of commitment highlights a major difference with private enterprises.<sup>12</sup>

The field of finance in particular carries the possibility of a typical lack of commitment. For example, even if the government promises to finance a temporary increase in debt by introducing a rationalization of their activities, they end up paying off the debt by raising taxes. In the language of economics, when there is a lack of commitment in the field of finance, there arises a dynamic or time inconsistency<sup>13</sup>, leading to the possibility of a soft budget constraint problem<sup>14</sup>.

Although this paper does not deal directly with the issue, there is also the important implication that the lack of commitment may rebound on the party breaking the promise. If the possible victim of any broken pledge is aware of this possibility they should either cover themselves in the contract against any such eventuality, or simply refuse to sign the contract in the first place. In so doing, the party breaking the pledge will also suffer a loss.

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<sup>10</sup> See Ito, Osano (2003, p.386), etc.

<sup>11</sup> It is possible for individual legislators, the cabinet or the party in power to be called to account, but it is difficult to force the entire government to accept responsibility.

<sup>12</sup> For example, Laffont and Tirole (1988, 1993) show how a lack of commitment by a regulatory authority could have a ratchet effect on a regulated enterprise resulting in a softening of budget constraints.

<sup>13</sup> The concept of dynamic inconsistency was introduced by Kydland and Prescott (1977) and Barro and Gordon (1983), and is used in macro-economics to theorize inflation bias. The concept is used to describe, for example, the situation in which a central bank finds itself unable to follow through on its own policies, which is essentially a question of lack of commitment.

<sup>14</sup> The problem of soft budget constraints as elicited by Kornai (1979) is not necessarily based on the concept of a lack of commitment, or on the concept of dynamic inconsistency on which this was grounded (Akai (2000) (pp.332-334)). However, lack of commitment has come to be recognized as a source of soft budget constraints.

## (2) The problem of internal organization

The second problem arising from the nature of government is the difficulties for governance arising from its particular organizational structure. Problems associated with “organization” have been the main interest of the organizational economics approach based on the concept of transaction cost.<sup>15</sup> However, recent analyses building on the fruits of game theory, such as Tirole (1994), and which aim to make explicit the incentives of organizations, have also gained ground. The factors identified by this research as being characteristic of government institutions are as follows.

### A. The problem of the structure of governance

The organizational structure of the government sector is often more complicated than that of private enterprises. The structure of mutual association is arranged both laterally, (with particular agencies or departments having their own vertical structure), and vertically (with a ranking order within the public sector, including central government over local authorities, and government over government agencies). This internal structure could present problems for governance. In particular, where the structure includes a number of principals (a multi-principal structure), the possibility of conflict between principals or the opportunity to avoid monitoring, presents problems for governance. A typical example is where several government agencies monitor a particular government organization. Furthermore, in the case of corporate governance, the ultimate monitoring function is in effect entrusted to major stockholders or the main bank. However, ultimate control of the government lies with the people (the citizens or taxpayers): a characteristically broad and shallow structure. In any case, the structure of governance creates problems for the monitoring of the government.

### B. Problems of evaluation

Besides problems arising from the structure of governance, problems with government governance are also determined by difficulties with formulating a basis for evaluation. Is it difficult to evaluate the public aspect which is an essential part of government activity using an objective standard such as cash figures. The typical example of justified government action is the correction of market failures, but most of the factors which bring about market failures are externalities which make market prices difficult to evaluate. Also, compared with private enterprise, there are many areas of government activity which cannot be disclosed. This asymmetry of information is one more obstacle to clear evaluation. Government departments also usually have a number of different tasks, and in extreme circumstances their objectives may even be opposed. Compared with the primary (though not sole) objective of private enterprises, to maximize profit, the multiplicity of tasks assigned to public sector activity makes evaluation

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<sup>15</sup> For example, Sakakibara, et al. (1979) seeks to analyze public corporations in terms of their internal organizational structures.

much more difficult.<sup>16</sup> Where it is difficult to make a precise numerical evaluation, the next best practical method is to compare performance with that of a competitor. However this method is limited by the fact that in many areas of government activity, there are no competitors. Hence, there are many factors which make it difficult to set standards for the evaluation of government activity.

#### II.4. *Strategies for Improving Governance: General*

In general, the fundamental means of ensuring appropriate governance is to match authority with responsibility. For example, the problem of agency can be alleviated by reducing the asymmetry of information (enhancement of monitoring), or adjusting the incentive structure, etc. We will now turn to some specific examples of this applied to government governance; though as we have already seen, the very nature of government itself means that none of these is perfect.

##### II.4.1. *Enhanced monitoring*

###### (1) Disclosure of information

Increasing transparency through disclosure of information is an effective means of enhancing governance. With regard to regulating government, this also provides valuable material for evaluating performance, so that what Hirshman (1970) calls “governance by voice” will be more effective. The Japanese government sector is also making progress in improving disclosure of information.<sup>17</sup> However, as we mentioned above, there are strong limitations on the disclosure of information regarding government activities, and the fundamental problem remains as to by what standard performance should be evaluated on the basis of this information.

###### (2) Establishing a watchdog

Governance is often strengthened by establishing a watchdog to whom monitoring is entrusted. In respect of government governance too, many areas of government have already adopted this system, with for example central government offices monitoring government agencies. However, there is no escaping the question of who will supervise the supervisors.

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<sup>16</sup> The difficulty of assigning priority to many different policy objectives has been long discussed as the “voting paradox”, but there has been considerable research since the 1980s on the question of multi-tasking from an incentive perspective. For the general theory, see Bernheim and Winston (1986), and for its application to issues of government, see Dixit (1996), Dixit, Grossman and Helpman (1997). In particular, Holmstrom and Milgrom (1991) used their theory of multi-task agency to analyze the problem of introducing a system of incentives when a multi-task system makes it difficult to evaluate results.

<sup>17</sup> For example, the Freedom of Information Act (passed in 1999, implemented in 2001), the production of public sector financial statements, and the analysis of investment and loans policy costs following reform of the government Investment and Loan Program in 2001.

#### II.4.2. *The structure of incentives*

##### (1) Strengthening responsibility

Designing a system of incentives which takes into account the asymmetry of information and other factors is an important research topic. However, we will consider here the slightly more general theme of creating appropriate incentives where there is an imbalance between authority and responsibility. Incentives based on achievement, with appropriate rewards and penalties depending on results, is an important strategy for enhancing governance. However, where government is concerned, not only is it difficult to evaluate performance, it is also not easy to determine responsibility for undesirable occurrences.

##### (2) Limiting authority

On the other hand, there is also the possibility of limiting authority. For example, Schmidt (1996) raises the possibility, in the context of a discussion of privatization, that the problem of soft budget constraints could even be alleviated by limiting government access to information. Recognizing these issues, one possible course of action would be to identify and isolate tasks, but then we are still left with the next problem, namely that of regulating relations between organizations.

### III. Characteristics of Japanese Public Debt

#### II.1. *An Overview of Mutual Relations within the Public Sector*

In the light of our conceptual discussion of government governance, let us now turn to the actual nature of public debt in Japan. To begin with, not only are there various types of debt, but there are also many different organizations carrying the burden of these debts. Figure 1 below, categorizes Japan's public debt from this point of view. Central government (further divided into general and special accounting), regional government and government agencies owe debt in the form of bonds, loans, etc.

We will now look at the figures and structure of Japanese public debt concentrating on 1. capital flow, and 2. authority over the burden of debt. In respect of the former, even if an organization finds itself in debt, capital flow is difficult to regulate because the organization could receive repayment capital from a different government account or receive a further loan (roll-over, etc.). From an "authority and responsibility" perspective this is a question of responsibility for debt repayment, and in line with our theoretical discussion this is a question of "commitment". Furthermore, authority over the burden of debt is also important, particularly

the mechanism for regulating credit limits. The ability of any organization to increase by its own will the upper limit of its debt is equivalent to “authority”. This corresponds to the problem of organizational structure from the perspective of governance of public organizations.

If we look at the characteristic nature of Japanese public debt, we find the following:

- (i) The public sector is divided horizontally by special accounting, etc., and by the hierarchy that exists between central government, autonomous bodies and quasi-governmental corporations, and public debt capital is circulated across these various divisions.
- (ii) In this situation, the burden of debt, as far as the capital to repay the various public debts is concerned, could always fall ultimately upon general accounting.
- (iii) Since a number of departments are involved in decision-making whenever public debt arises, a complex round of discussions and negotiations becomes necessary.

Whether it be capital flow or authority over debt burden, the main issue is the relations between the various organizations within the public sector. In this paper we divide the organizations within the public sector broadly into, 1. those concerned directly with finance itself, 2. the ministry of finance (the representative of general accounting), and 3. other areas of the public sector. Relations with the legislature (parliament) is an extremely important topic for research, though we will not discuss this issue in this paper, but we will focus on the administration as the public sector.

### *III.2. Cash Flow within the Government – The Burden on General Accounting*

The topic of Japanese public debt financing covers a wide area including the various central government accounts, regional governments and governmental agencies. These can all pass capital back and forth between each other using various channels. For example, they can provide mutual funds for each others' debts and provide subsidies as part of debt repayments. The capital used in this way finally comes back to general accounting, which is the core of public finance. Within the public sector, central government (particularly general accounting) has the strong power to provide repayment capital ultimately by raising taxes. From another point of view however, there is the potential for a lack of commitment regarding public debt. The structure of each public debt leads finally, either directly or indirectly, to central government, and in particular to general accounting. This structure potentially weakens commitment to reducing one's own debts by oneself.

#### *III.2.1. Mutual relations within the public sector*

Let us begin by looking at the proportion of government to public capital underwriting of each public debt. Although levels vary, a significant amount of the capital is provided by the

government sector. In its basic form, this capital is provided by the public finance loan special account, public pensions special account, postal savings, and other sources such as surplus funds, which are then intermingled and circulated as a source of debt capital.

Although the 2001 reforms to the Fiscal Investment and Loan Program were intended to remove this capital flow which the original Program set up, elements of the basic framework still exist. For example, capital is provided for regional debt by fiscal loan capital, postal capital and public enterprise capital. Government bonds debt owed by government agencies is covered by fiscal loan capital and post office insurance. Even within central government, each special account borrows from the fiscal loan special account. Furthermore, government bonds (construction bonds, special bonds) which form the core of public debt, are partially financed by capital from pensions and postal savings. Together with the management of surplus funds, etc., this shows how public debts come to have a complex mutual influence within the government.<sup>18</sup> Figure 1 and Chart 2 show how the various public debts are closely connected, with a general overview shown in Figure 1 provided separately.

It is important to note the nature of Bank of Japan funds. As a general rule, the Bank of Japan is prohibited from financing public debt. However, various systems exist by which funds can be raised, including the possibility of making exceptions under special laws, and acceptance as eligible collateral for credit by the Bank of Japan. If we include the Bank of Japan in our assessment, the tie-ups within the public sector in Japan with regard to public debt are even stronger.

### III.2.2. *Debt repayment capital and general accounting*

We will now outline the repayment capital for public debt. Repayment capital differs depending on the nature of the public debt involved, but in general terms it can be divided into 1. tax revenue, 2. non-tax revenue, 3. subsidies from other government departments, and 4. new debts. Since the funds have no identifying characteristics, it is impossible to determine without any special steps which capital has been allocated. However, if you have incurred a debt, it is evident that repayment must be made using one of the sources 1-4. Hence, increasing public debt means an increased necessity to raise one or other of 1-4 in any combination.

In Japan's case, as far as debt repayment capital is concerned, since subsidies and taxes allocated to local government are complicated within central government, it is difficult to understand at first glance. However, the fundamental fact is that, with its overriding authority, central government, particularly general accounting, is the main source of repayment capital. (Chart 3: details of the flow of repayment capital for the various debts are given in the attached Figure 2.) General accounting transfers the various funds to special accounts. Furthermore,

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<sup>18</sup> For example, a finance bill issued by a special account provides surplus funds for fiscal loans special account which is used as surplus funds.

these special accounts provide tax revenues and subsidies to local governments, and capital and subsidies to government agencies. It can therefore be said that, by issuing more government bonds to provide repayment capital for other public debts, general accounting is itself increasing the overall public debt burden.

There is always the danger that a situation such as this, where public debts are ultimately returned to general accounting, could lead to a lack of commitment to repaying any debt directly and a softening of the budget. There are two ways in which there could be a lack of commitment to government debt. Firstly, there is the way in which debt is underwritten or repayment capital provided by the government. Secondly, when these debts are returned, general accounting can then procure funds by increasing taxes. The latter case is particularly an essential characteristic of government.<sup>19</sup>

When public debts are underwritten by various departments within the government, it could be expected that when repayment becomes a problem, the conditions for repayment will be mitigated, since they are all part of “the family”. And, since the final credit source for public debts is the government, particularly general accounting, this expectation could result in a further burden for general accounting. This possibility cannot be dismissed as mere empty theorizing. For example, the debts of the national railways, which were part of the government sector, are still being borne by the state in the form of borrowing by general accounting.

In fact, the financial markets have no concerns over the repayment of public debts. Although the debts of local governments and government agencies were originally separate from government credit, the financial markets have come to recognize the existence in fact of a “tacit government guarantee” covering those debts. For example, the spread between Financial Investment Agency Bonds, which are supposedly issued under the government agencies’ own credit, and government bonds, is generally small (Figure 2).

### III.3. *Debt Burden and Decision Making*

One of the defining characteristics of Japan’s government sector is its vertical hierarchy, or what might be called its “divided pluralism”. This structure could be considered to have an influence on the governance of public debt. Let us now confirm the decision-making process regarding the debt burden in the light of the problem of internal structure as theorized in II.

The first characteristic we discover is that authority over debt burden has become complicated. Many cases require approval (a vertical issue) and negotiation (a horizontal issue), or the involvement of a number of different regulatory authorities. The Fiscal Investment Program Reform and the recent trend towards regional decentralization, mean that decentralization of authority can only get stronger. On the other hand, the structure of

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<sup>19</sup> According to Kornai, there are five factors which contribute to budget softening: 1. price fixing, 2. the tax system, 3. subsidies, 4. national credit granting, and 5. external investment.

governance has not been fully decentralized. Central government continues to play a major role in local authority and government agency debt.<sup>20</sup>

Following on from our argument about internal organization, this kind of complex governance structure often presents obstacles to establishing an incentive mechanism. Furthermore, the various departments involved in finance (general accounting, special accounting, local authorities, quasi-governmental organizations, etc.) have a number of different public duties, and so evaluation of performance is not easy. In these circumstances, the incentive for debtors to find capital to repay their debts by themselves, through for example improving efficiency, may be weakened. The regulatory authority applying governance may also become confused as to what level of inquiry the can impose.

As we have seen above, in relation to Japan's public debts, the flow of capital and the decision-making power are very much determined by mutual relations between government departments. This kind of structure allows for power and responsibility over debt burden to become vague.

#### IV. Enhancing Regulation

Where there is the possibility that governance of public debt may fail to be adequate, the fundamental steps to be taken to match power with responsibility and to create an appropriate incentive structure. To achieve this, there are two possible courses of action. Firstly, those departments that have the authority to put themselves in debt should be under a corresponding duty to repay those debts (strengthening responsibility). In conformity with recent moves towards decentralization, for example, where a public organization finds its debt repayments have become problematic, a system must be in place whereby the parties responsible can be clearly identified. Secondly, where there is a failure to accept appropriate responsibility, certain powers and monitoring functions must be given over to another party (limitation of power). For example, it might be possible for debt management functions to be concentrated within central government.

In its *Guidelines for Public Debt Management* published in March 2001, the IMF emphasized that governance must be implemented both from a legal and an organizational perspective.<sup>21</sup>

##### IV.1. *Enhancing Responsibility: Default Legislation for Public Bodies*

Enhancing responsibility for repayments means adopting a policy which ensures guaranteed repayments. One specific measure might be, for example, to strengthen or clarify the penalties

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<sup>20</sup> For example, as of June 2005, the issue of municipal bonds requires the approval of the Ministry of Internal Affairs and Communications. A consultation system will be introduced in 2006, but at present the conditions for the Ministry's approval are unclear and generally arbitrary.

<sup>21</sup> The IMF Guidelines regarding governance are directed towards debt management authorities.

applicable in the case of repayment default. The alternative, where no system is in place to deal with defaults, is a situation in which legislation may be unable to deal with debtors who end up being bailed out when they are in difficulties. This is not to say that debtors, or in this case public bodies, should be allowed to fail. It is simply to ensure that, through this system, financial regulation can be improved.

However, when it comes to default by public bodies, there are a number of legislative issues to be considered. We will discuss the default legislation issues below, particularly with respect to their impact on local government and government agencies, including quasi-governmental corporations<sup>22</sup>.

#### IV.1.1. General remarks

##### (1) Recent increase in awareness

When debt repayments are delayed, someone has to bear that burden. In the case of public debt, this means that taxes or business revenues must be increased (the burden is placed on taxpayers or beneficiaries), or subsidies must be provided (in the first instance by central government, but ultimately by taxpayers), or the level of debt reduced (creditors).<sup>23</sup> Of these, the most acceptable would be to increase revenues such as taxes. When this method proves difficult, it seems that subsidies would be the alternative. But, implementing either of these two methods would serve only to disguise the default, and the grounds for apportioning responsibility would also become unclear.

In the midst of these problems, the question of default legislation for public bodies has attracted much attention recently. While joint public-private corporations and local public corporations, etc. continue to fail, default by public bodies has become a fact of life. Even in the academic world, research into bankruptcy legislation for public corporations has been increasing steadily.

##### (2) What is the process of bankruptcy?

In simple terms, the general bankruptcy process is as follows: Debt repayments cannot all be met, and the debtor's assets are distributed fairly among all creditors giving priority to no individual creditor. Under bankruptcy legislation, the process can be divided into four steps.<sup>24</sup> Firstly, the courts determine whether or not the debtor is insolvent and make a declaration of

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<sup>22</sup> The term "default" may sound too strong, but in this paper, it refers to measures to mitigate debt repayment difficulties in general.

<sup>23</sup> Besides these, there is the possibility of repayment by creating a new debt burden, but this is simply to postpone the problem and ultimately one or other of these parties must bear that burden.

<sup>24</sup> Bankruptcy is considered as a form of insolvency (liquidation).

bankruptcy if that is the case. Then the debtor's assets are ascertained and their value calculated. The amount each creditor is to be compensated is then determined, and finally, the debtor's assets are distributed.

When this process is applied to public corporations, the first difficulty relates to the process of declaring bankruptcy. Before bankruptcy can be declared, both the "capacity for bankruptcy" and the "cause of bankruptcy" must be identified. The capacity for bankruptcy refers to whether the debtor can actually become bankrupt in the first place. The cause of bankruptcy refers to whether the financial state of the debtor has deteriorated to the extent that bankruptcy proceedings can begin. Firstly, this would be defined as an inability to repay debts which are already due, a failure to pay the debt in full, and the inability to repay the debts within a reasonable duration. An inability to repay debts means that, objectively speaking, debts which are due have not been paid on time, the greater part has not been paid, and there is no prospect of the debt being paid within a reasonable period. Where repayments have been suspended, for example due to non-payment of drafts, this will also be regarded as inability to pay. A second cause of bankruptcy would be liabilities in excess of assets.<sup>25</sup> Under the new bankruptcy procedures, the Corporate Rehabilitation Law and the Civil Rehabilitation Law, there is now a third possible cause of bankruptcy, in that if the debt cannot be repaid without virtually preventing the continuation of the business, that is one step prior to bankruptcy, one can apply for bankruptcy proceedings to begin.

### (3) Three problems arising from the nature of public corporations

Unlike private enterprises, there are difficulties in bankrupting a public corporation. The three points below discuss the ways in which the specific characteristics of public corporations cause problems in the application of bankruptcy legislation.

#### A. "Possibility of bankruptcy"

In order to establish bankruptcy legislation for public companies, it is necessary 1. to discover whether or not the "possibility of bankruptcy"<sup>26</sup> exists, and 2. to define "grounds for bankruptcy"<sup>27</sup>. Unlike private enterprises, the problem with the capacity for bankruptcy with regard to public corporations arises from the fact that they are bodies which provide government services and so cannot be allowed to fail in the way that private companies can,

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<sup>25</sup> Excessive liability can be the cause of bankruptcy for a company, but not in the case of limited companies and partnerships.

<sup>26</sup> In this paper, the capacity for bankruptcy includes what is defined under insolvency law as the capacity for insolvency (for example, eligibility under the Civil Rehabilitation Law, etc.). Furthermore, the term "capacity for bankruptcy" is a term adopted for convenience in this paper, and is not a legal expression.

<sup>27</sup> As with the capacity for insolvency, in this paper, the cause of bankruptcy includes what is defined under insolvency law as the cause of insolvency. This term is also adopted for convenience in this paper, and is not a legal expression.

simply because of a shortage of capital.<sup>28</sup>

#### B. “Grounds for bankruptcy”

Unlike private enterprises, determining the cause of bankruptcy is also difficult in the case of local self-governing bodies. This is because it is difficult to declare bankruptcy given the various sources of financial support, through tax allocations and subsidies, which they receive. Possible ways to deal with this problem might include, 1. for a given term, define the thresholds over which debt will be incurred based on the forecast income for that period, and 2. a radical overhaul of the subsidy system with a new definition of bankruptcy.

#### C. Conflict between the democratic process and judicial control

In a democracy, public corporations are basically under the control of the citizens or residents. If we assume bankruptcy legislation, the process will be taken over by the judiciary, who are not under democratic control. On this point, more than is the case with private enterprises, it is important to consider the possible necessity for limitations to be imposed on judicial intervention.

### IV.1.2. *Default legislation for self-governing bodies*

Based on the three arguments discussed above, the following discussion will consider, from a legal point of view, the possibility of a bankruptcy system as applied in particular to local self-governing bodies.

#### (1) The possibility of bankruptcy for local self-governing bodies

Legal experts agree that it is impossible under existing law to bring insolvency proceedings against local self-governing bodies and bring about their dissolution as legal entities, and that it is difficult to imagine what such legislation would be like. This is because, from a legal point of view, they do not recognize the possibility of legal dissolution through bankruptcy for what are fundamentally legislative entities, such as self-governing bodies.<sup>29</sup> Furthermore, if a legislative body were to lose its right to management of its assets through bankruptcy, it would no longer be able to govern.<sup>30</sup>

If we turn to the reformed bankruptcy laws, and take the Civil Rehabilitation Law as an example, even though there are no restrictions on eligibility under this law<sup>31</sup>, there is almost no

<sup>28</sup> The capacity for insolvency is generally left vague for public corporations. The Insolvency Sub-Committee of the Legislative Council’s Bankruptcy Legislation Committee has not made a decision on the insolvency of public corporations stating that, “We are still discussing the regulations under which public corporations can be declared insolvent.”

<sup>29</sup> Itoh (2001).

<sup>30</sup> Aoyama, et al. (2001).

<sup>31</sup> There are no restrictions on eligibility for rehabilitation status. Corporations, individuals (natural persons), unincorporated associations and foundations, foreigners, and foreign corporations are all

literature even on the applicability of the law to self-governing bodies. However, the aim of the Rehabilitation Law is not the dissolution of the self-governing body, but its rehabilitation through restructuring of debt and rationalization. Therefore, even if insolvency law cannot be applied to self-governing bodies, this doesn't rule out the possibility of eligibility under the Rehabilitation Law.

## (2) Causes of bankruptcy for local self-governing bodies

The most obvious cause of default is of course difficulties with, or inability to meet repayments. Under US law on bankruptcy of local self-governing bodies (Chapter 9 of the Federal Bankruptcy Law, "Adjustment of Debts of A Municipality", which aims at rehabilitation rather than insolvency)<sup>32</sup>, the "cash flow insolvency test" is used to determine bankruptcy. In other words, the inability to secure cash flow (inability to repay) is grounds for bankruptcy.<sup>33</sup> Self-governing bodies in the US are not usually guaranteed a constant source of subsidy from the state government, and so there is always the possibility of default. Of course, the US system could not be adopted wholesale in Japan, but there is no mistaking the potency of using inability to raise funds as grounds for bankruptcy.<sup>34</sup> In short, it is important to place thresholds for inability to meet repayments at the center of our discussion.

## (3) Democratic process and changes to the judicial system

Local self-governing bodies are controlled by the voters through the assembly. However, when we consider bankruptcy legislation, it is the courts which deal with the process. On this point also, US local government bankruptcy law introduces one important perspective. Under this law, the debtor, in this case the local government body, has considerable control as debtor-in-possession. The courts and the receiver are not involved in the implementation of the rehabilitation plan<sup>35</sup>, resident self-governance is still effective in the rehabilitation process, and

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included (Civil Rehabilitation Law, Article 3).

<sup>32</sup> This is part of the federal code, since the Contract Clause of the US Constitution says that state law cannot intervene between creditors and debtors.

<sup>33</sup> In the case of Bridgeport, Connecticut, the courts refused to rule the city bankrupt because it still had the ability to borrow and so could not be said to have "run out of cash" even though, despite having levied the highest taxes in the state, the city was in the red. In other words, insolvency can be avoided simply by borrowing more money.

<sup>34</sup> The insolvency threshold used to determine bankruptcy for profit-making organizations is not used in the case of partnerships.

<sup>35</sup> In fact, there is an argument, advanced by Woodford and Picker (1993), that for bankrupt self-governing bodies, Chapter 9 may not always be the best route. According to this argument, the object of bankruptcy for self-governing bodies is more like bankruptcy law for private individuals than for companies, in that it should aim to help the debtor recover through rationalization. Since the bankruptcy came about as a result of poor governance on the part of the self-governing body, rehabilitation must therefore come about through cost cutting, disposal of assets, and tax increases, under oversight by the courts, as is the case with other bankruptcies. Yet under the framework of the current law, approval of

it is not always necessary to resort to tax hikes. The only major influence the courts have is in deciding whether the plan maximizes the advantage of creditors; the so-called “greatest benefit to the creditor” rule.<sup>36</sup> Some have argued that, even under Japanese law, it is necessary to focus on the DIP rehabilitation process, in order to ensure the democratic balance.<sup>37</sup>

In any case, the status of the judiciary is problematic. At the very least, we need to consider the legal implications of the constitution in relation to self-governing bodies and local government legislation. We may also need to investigate the position of the fiscal reconstruction system.

#### IV.1.3. *The bankruptcy system for quasi-governmental organizations, etc.*<sup>38</sup>

Next we will discuss the bankruptcy procedure for bodies such as quasi-governmental corporations. Insolvency in the case of quasi-governmental corporations can be seen as a matter for the courts. On the hand, where rehabilitation is a possibility, there seem to be no reason to deny application of the Civil Rehabilitation Law. However, as is the case with local government, it is difficult to define inability to repay or overspending because of the funding and subsidies they receive. Also, though not to the same extent as local government, since they fall under the purview of the administration, any rehabilitation plan cannot be free of government and administration influence because the public good must be taken into consideration.

Corporation Rehabilitation Law is one example of a possible legal basis for rehabilitation of quasi-governmental corporations, but this is aimed at joint stock corporations and cannot be applied as is. The following section looks at the particular characteristics of public corporations.

##### (1) The possibility of bankruptcy for quasi-governmental corporations

The theoretical grounds for bankruptcy of quasi-governmental corporations are not as strictly defined as for local government. Firstly, let us take liquidation bankruptcy as an example. The accepted view is that since quasi-governmental corporations are peculiar in having a high public responsibility as part of the administration, they cannot be declared

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the rehabilitation plan depends on the court’s deciding that it meets the criterion of “the greatest benefit to the creditor”, which could allow the courts to interfere in the political and administrative functions of the self-governing body.

<sup>36</sup> In order for the rehabilitation plan to be acceptable, for each category of credit, more than half of the creditors must agree to the plan, and the amount due to those creditors must be at least two-thirds of the total amount. For some categories of credit, even if less than half of creditors accept the plan, it is possible for an appeal to be made to the courts to have the plan accepted, but it must follow the “greatest benefit to the creditor” rule.

<sup>37</sup> See Kitami (2004).

<sup>38</sup> In this paper, “quasi-governmental organization” includes independent administrative agencies, as defined in the Act on General Rules of the Independent Administrative Agencies Law, and corporations established directly under Article 4 Section 15 of the Ministry of Internal Affairs and Communications Act for Establishment.

insolvent. However, arguments for the possibility of insolvency have recently gained ground.<sup>39</sup> Such theories argue that, 1. the possibility of insolvency should be based on the strength of the public responsibility of the corporation; and more recently, 2. judgment should be based on whether there is self-supporting accounting or not (legal independence from national or local government, and self-financing); and 3. it is appropriate to recognize in the first place that public corporations, excluding national and local governments, can become insolvent, and then to consider the public nature, viability and economic base of the corporation.

Even in recent theory, there are still those who argue that insolvency should not apply to quasi-governmental corporations simply based on an interpretation of existing law. In such cases, 4. the deciding factor should be the legislators' intention as expressed in the law itself. That is to say, dissolution of the corporation can be brought about using separate legislation if the legislation covering the incorporation of the quasi-governmental corporation includes a clause allowing such a situation. And so, the capacity for insolvency is possible through new legislation. For those quasi-governmental corporations which have been converted into joint stock companies, insolvency cannot be denied simply on the basis of the public responsibility of the corporation unless this is covered in the original incorporation legislation.<sup>40 41</sup>

Since there is no reason normally to deny application of the Civil Rehabilitation Law<sup>42</sup>, rehabilitation bankruptcy in the case of quasi-governmental corporations may be seen as acceptable.

## (2) Grounds for bankruptcy of quasi-governmental corporations

As with local authorities, when we turn to grounds for bankruptcy, the fact that these corporations receive funding and other subsidies, it is difficult to identify overspending and the inability to meet debt obligations. Below we will distinguish between independent administrative corporations and quasi-governmental corporations.

### A. Independent administrative corporations<sup>43</sup>

<sup>39</sup> Nishizawa (1983), Hiroshi Yamamoto (2002a, 2002b).

<sup>40</sup> Hiroshi Yamamoto (2002b, p331).

<sup>41</sup> The dissolution of quasi-governmental corporations which have become joint stock companies requires the approval of the relevant government minister. So, even though insolvency is possible, this issue must be taken into account. For example, in Article 13 of the Narita International Airport Company Law, it states that, "any change in the company's articles of association, processing of profits and losses, merging, or decision to restructure or dissolve, cannot take effect without the approval of the Minister for Land, Infrastructure and Transport."

<sup>42</sup> See Egashira (2002).

<sup>43</sup> Article 45 of the Basic Law on Independent Administrative Corporations states that, "Independent administrative corporations may only borrow limited funds for a short period under the terms of Article 30 Section 2 Item4", but Article 45 Section 5 states that, "Independent administrative corporations cannot borrow funds long term or issue bonds unless permitted by separate laws." In other words, long-term loans could be permissible under separate legislation.

In fact, Article 19 of the Japan Student Services Organization Law states that, "the Organization may borrow funds long term or issue Japan Student Services bonds with the approval of the Minister of Education in order to cover expenses related to the provision of educational loans, as covered in Article

The legal basis for operating subsidies is Article 46 of the Basic Law on Independent Administrative Corporations which states that, “The Government can provide financial support from the budget to meet all or part of the operating costs of independent administrative corporations.” General accounting and special accounting budgetary measures are determined on the basis of this legislation. However, this legislation cannot be interpreted as giving independent administrative organizations the right to such funding. It is possible within the law for the Government to cut this funding as part of any cost-cutting policy measure.<sup>44</sup>

Even though not guaranteed as a legal right, if financial support continues to come from general accounting, special accounting, public funds and so on, it is difficult to arrive at a definition of debt default even on accounting grounds. This is because, in current independent administrative organization accounting, no substantive losses arise. In independent administrative organization accounting, because operating allowances cover all costs, they are considered as income,<sup>45</sup> and there is no way for debt default to occur.<sup>46</sup> The peculiarities of this accounting method must be borne in mind.

#### B. Quasi-governmental corporations

The accounting standards which apply to quasi-governmental corporations are not as generous as those for independent administrative organizations<sup>47</sup>, but thanks basically to subsidies, no losses show up on the accounts. However, there are many self-financing quasi-governmental organizations, such as the Japan Racing Association and NHK. In this case there is the possibility of both inability to meet debt obligations and overspending, but quasi-governmental corporations which have not become joint stock companies usually have only the possibility of failure to meet obligations. But, for both independent administrative organizations and quasi-governmental corporations, there is little chance of default as long as they continue to receive funding which is not limited by policy decision.<sup>48</sup>

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13 Section 1 Item 1.” Hence, a standard is still required for grounds for bankruptcy of independent administrative organizations.

<sup>44</sup> The Government can decide as a policy not to provide any debt guarantee. Particular legislation covers debt guarantee. For example, Article 23 of the Japan Student Services Organization Law states that, “regardless of Article 3 of the law detailing the limits of governmental financial support for corporations (Law 24, 1946), within the sum agreed by the Diet, the Government can guarantee the Organization’s debts incurred by long-term loans or bonds (except for debts guaranteed by the Government under Article 2 of the law relating to special measures covering the receipt of foreign capital from, for example, the International Bank for Reconstruction and Development (Law 51, 1953)) .” These guarantees are not established as legal rights, and so are completely dependent on government policy.

<sup>45</sup> For details of accounting see Okamoto et al. (2001, p311), etc.

<sup>46</sup> However, the possibility of losses cannot be denied for self-financing organizations.

<sup>47</sup> The accounting standards for quasi-governmental corporations (except independent administrative organizations) are based on regulations introduced in October 1987.

<sup>48</sup> A completely different approach advocates weighing the relative cost of aiding or forsaking those quasi-governmental corporations facing financial difficulties and then deciding whether, on policy and discretionary grounds, dissolution of the corporation is to proceed. See Sakurachi (2004, p278).

### (3) The balance between democratic process and judicial control

Unlike local governments, quasi-governmental corporations tend to emphasize their independence, and being far removed from the democratic process, democratic pressures are relatively weak. Under the basic law covering quasi-governmental corporations, the relevant supervisory authorities have wide-ranging powers, but the administration's power to control quasi-governmental organizations is not as strong as the constitutional rights of local residents through their local authorities.

## IV.2. *Centralized Management of Debt*

One more approach to balancing authority and responsibility would be to transfer some of the authority and monitoring functions if there is the possibility of failure to meet debt obligations. In this case, for example, focus might shift towards central government as the ultimate authority over the public sector. We could then expect a putting in order of the government's internal capital flow and decision-making process, and an improvement in governance. Based on these ideas, some experts have advocated the establishment in Japan of a "Special Bureau for the General Management of Public Debt" (see Masaaki Honma's 2003 proposal when he was a member of the Council on Economic and Fiscal Policy; Ikee (2002);, PHP General Research Institute (2003); Mitsubishi Research Institute (2004), etc.).

However, how far authority should be concentrated is a difficult issue. If the authority were to cover even debt capacity, that could have a direct effect on the scope of public sector budgets and repercussions for the entire fiscal system. Many foreign countries do indeed have "Debt Management Agencies". For example, in the UK or Germany, such agencies play a certain role in the management of public debt. However, foreign debt management agencies' duties are more-or-less limited to the cost-efficient management of national bonds.

Even if we disregard the organizational theory of establishing a new specialist department, we could at the very least expect an improvement in governance of public debt through a strengthening of monitoring if there were some function which could view the whole range of public debts together. For example, it is easy to produce a simulation such as a "stress test" which could determine how much changing circumstances, such as an interest rate hike, would increase interest repayment costs for the whole public sector. But since we do not have this kind of function at present, there is a concern that interest repayment costs could snowball should there be an increase in interest rates.<sup>49</sup>

Several specific initiatives have recently been progressing along these lines. The "National

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<sup>49</sup> For example, the Mitsubishi Research Institute (2004) found that interest payment costs, for national bonds alone, could vary widely depending on, 1. what is covered by national bonds (whether FB and investment and loan bonds are included), and 2. how changes in the yield curve are configured when interest rates rise.

Balance Sheet” which has been published since 1999 by the Finance Ministry, despite being limited to central government, is an attempt to provide an overall account of public debt (and assets). The Finance Ministry also produces the “Debt Management Report” to present data and information about the public debt system, including local government and government-related agencies. Furthermore, disclosure of financial information relating to special accounting and quasi-governmental corporations, etc., has been increased. The rules governing this area have also been improved. This has also helped invigorate research into public accounting. In this paper, we have not discussed public accounting, but as research in this area advances, we can expect this to contribute also to the general management of public debt.

This centralized management and improvements in the default system mentioned above, do not contradict each other. If there is a department which can be decentralized, this is best done once they are fully capable of meeting their responsibilities. To decentralize and open up to the discipline of the market is one way of thinking, but there are limits to the responsibilities which public organizations can shoulder. Basically, they cannot undergo liquidation bankruptcy, and even with regard to rehabilitation, central government will judge whether or not the organization receives financial support, for example, to maintain its business scale. Since central government must bear responsibility in the final analysis for public organizations’ debts, it would be sensible to give the government some kind of central management system to fulfill this responsibility.

## **V. Towards a Conclusion**

The unprecedented increase in public debt in developed countries seems beyond that which can be controlled by any one term’s budget. Nobody seems confident about their ability to withstand, for example, an unexpected increase in interest rates. Of course, the best course for strengthening public finances is to reduce annual expenditure and increase revenues, but one cannot expect too much from this in debt management. However, there is no mistaking the fact that more attention than ever must be paid to the question of both flow and stock in controlling public debt.

Under the present system where authority and responsibility are vague, not only those departments which increase public debt, but also related departments could, to a greater or lesser extent, end up carrying the burden of this debt through “indirect debt liability”. In fact, general accounting has in the end been burdened with the debts of the former national railway, and local governments are increasingly finding themselves burdened by the various operating difficulties of public-private joint ventures and local public corporations. As Japan’s public sector debt repayment reserves are rapidly being used up, there are growing calls for public debt regulation and for a system to guarantee such regulation.

There is no simple key to planning a system for a government which is so large and has such

an idiosyncratic form. The taxpaying and voting citizens should have the final say over government policy, but recently creditors have an increasingly important role in the governance of public debt. The idea of self-regulation within the public sector is another alternative. In any case, it is not a matter to be solved simply by decentralization. The basic principle is to ensure the appropriate authority and responsibility for the given task and circumstances. However, it is not difficult to imagine that one would face a number of problems if one tried to put this into practice. The default system for public corporations and the centralization of public debts we have considered in this paper give only a general indication of a possible way forward. In reality, a constant and detailed assessment of the adequacy of the mission, the appropriate levels for subsidies, the distribution of responsibility, and other factors, will be essential.

Table 1: Managing Japan's Public Debt: Finance Subjects and Methods

	Central Government				Local Authorities	Quasi-governmental organizations, etc.	Japan Post
	General Account	Special Account					
		Other Special Accounts	Fiscal Loan Account	Pension Account			
(supervisory authorities)	Ministry of Finance	various ministries incl. Agriculture, Trade, etc.	Ministry of Finance	Ministry of Health	Ministry of Internal Affairs and Communications	various supervisory authorities	Ministry of Internal Affairs and Communications
Bonds	•Regular Government Bonds •FB	•FB	•Fiscal Loan Bonds •FB		•Local Authority Bonds (securitized)	•Government Guaranteed Bonds (*) •FILP-institution bonds	
Borrowing	•From other accounts	•Fiscal Loan Borrowing •Private Borrowing			•Borrowing on bonds	•Government Guaranteed Borrowing (*) •Fiscal Loan Borrowing •Private Borrowing	•Financial Liberalization Funds
Pension and Insurance Debt				•Employee pension •National Pensions •Mutual Pensions			•Postal Life Insurance
Debt Guarantee	•Government Guaranteed Bonds •Government Guaranteed Borrowing				•Semi-public sector guarantees, etc.	•Private Sector Guarantees	
Savings							•Postal Savings

Note The government guarantee obligations of quasi-governmental organizations (marked \*) are also listed under the category of central government contingency debt guarantee.

Table 2: Source of Funds for Various Public Debts

(unit: %)

	Government Bonds (construction, special, financial)	Financial Bills	Government Borrowing (special account)	Local Authority Bonds	Local Authority Borrowing	Government-affiliated organization bonds
2003 Balance (trillion yen)	581	86	61	57	111	76
Central Government	9.2	19.7	70.9	0.1	0.0	11.8
of which, Fiscal Loan	9.2	12.3	70.9	0.0	0.0	11.7
Social Security Fund	7.4	0.0	0.0	3.5	0.0	8.4
Postal Savings	14.5	2.3	0.0	17.2	0.0	5.2
Postal Life Insurance	9.0	1.4	0.0	13.0	0.0	24.8
Government-affiliated organizations	0.5	0.1	0.0	0.3	87.4	0.0
Local Government	0.1	0.0	0.0	0.7	0.0	0.2
Bank of Japan	14.7	15.7	0.0	0.0	0.0	0.0
<b>Main Public Sector total</b>	<b>55.4</b>	<b>39.1</b>	<b>70.9</b>	<b>34.9</b>	<b>87.4</b>	<b>50.5</b>
Main Private Financial Sector	26.9	50.9	29.1	56.9	11.9	37.9
Private Enterprise	0.0	0.0	0.0	1.1	0.0	2.1
Households	2.5	0.0	0.0	2.1	0.0	0.8
Overseas	3.5	4.0	0.0	0.0	0.0	1.0
Other	11.7	6.0	0.0	4.9	0.7	7.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

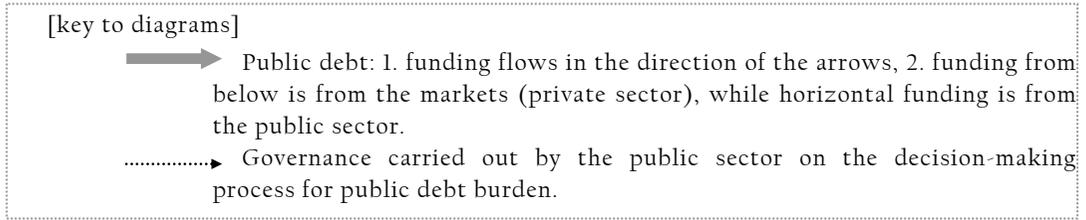
Note 1: Based on secondary market value.

Note 2: The primary private financial sector comprises banks, life and accident insurance brokers, securities companies, investment trusts and non-bank finance companies, etc. as included in the Circulation of Funds Statistics.

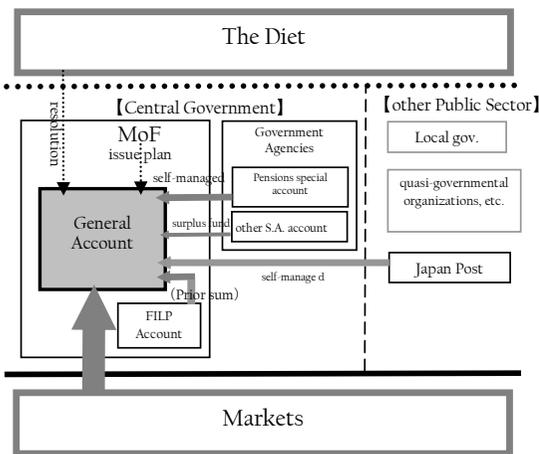
Note 3: For convenience, local government borrowing from the non-financial sector is included under 'other'.

Sources: Bank of Japan, 'Flow of Funds'; Ministry of Finance Financial Bureau, 'Debt Management Report 2004'.

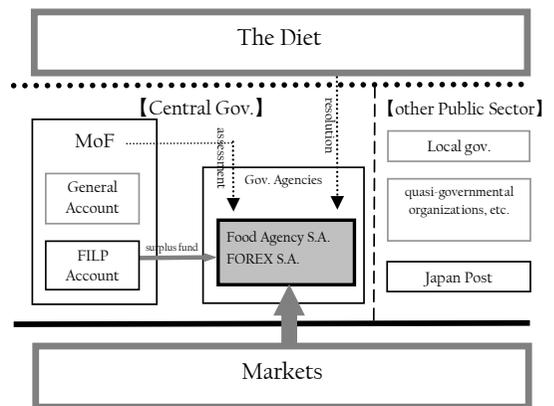
Figure 1: The Flow and Decision-Making for Funding of Public Debt



1. Construction Bonds, Deficit Bonds



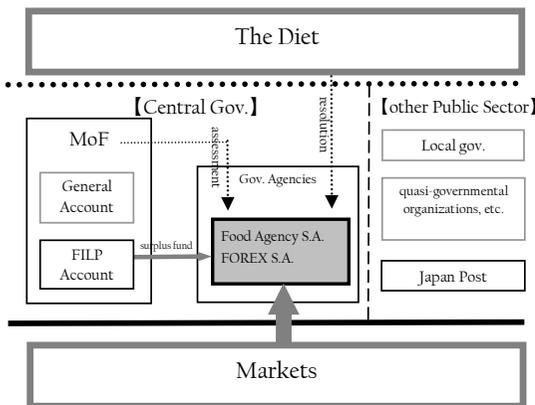
2. Financing Bills



Note 1: Since the Foreign Exchange Special Account falls under the jurisdiction of the International Department of the Ministry of Finance, it is included under Government Agencies.

Note 2: Covers FBs under special accounts such as the Food Agency Special Account. Other treasury securities are included in the General Account.

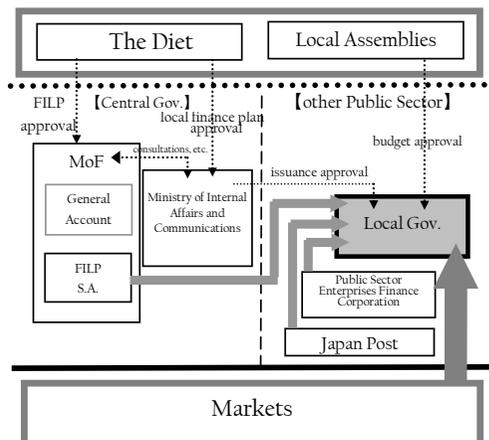
3. Government Borrowing



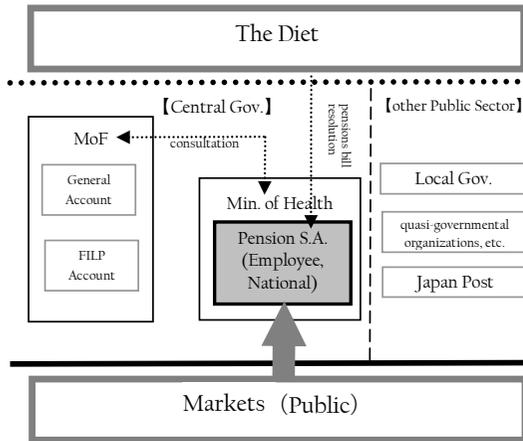
Note 1: Since the Foreign Exchange Special Account falls under the jurisdiction of the International Department of the Ministry of Finance, it is included under Government Agencies.

Note 2: Covers FBs under special accounts such as the Food Agency Special Account. Other treasury securities are included in the General Account.

4. Local Government Debt

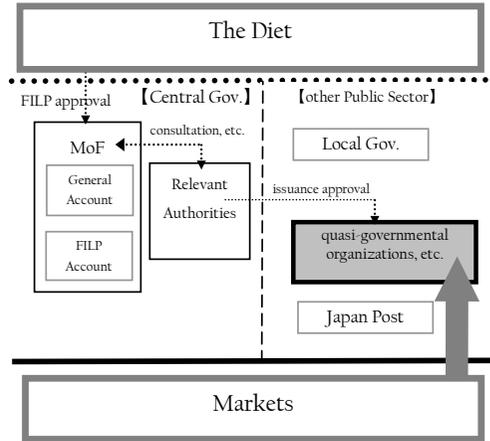


### 5. Pensions Obligations

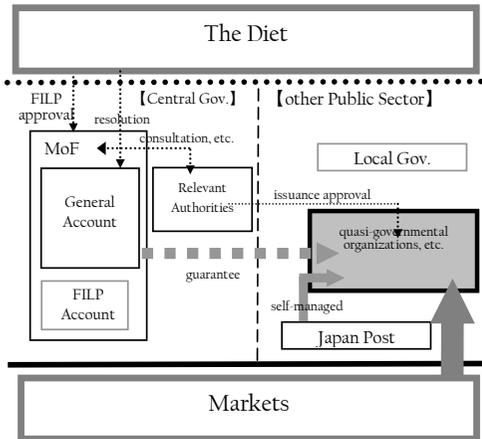


Note: It is important to bear in mind that unlike other public debts, borrowing for pensions obligations does not involve cash.

### 6. Fiscal Investment and Loan Program Bonds



### 7. Government Guaranteed Bonds



Sources: Various government documents.

Table 3: Public Debt Repayment Funds

## (i) Amount of annual revenue allocated for debt repayment (trillion yen).

Trillion yen	General Account	Special Account	Local Bonds	Quasi-governmental organizations, etc.		
					Independent Administrative Agencies	Quasi-governmental and government-approved organizations
Tax revenues	44.0	3.2	33.3	Cannot impose taxes	Cannot impose taxes	Cannot impose taxes
Other revenues	1.9	107.7	6.7	na	na	na
From other accounts	1.8	47.7	31.5	8.9	3.4	5.6
Total	47.8	158.6	71.5	na	na	na

## (ii) Proportion of annual revenue allocated for debt repayment (percentage).

%	General Account	Special Account	Local Bonds	Quasi-governmental organizations, etc.		
					Independent Administrative Agencies	Quasi-governmental and government-approved organizations
Tax revenues	92.1	2.0	46.6	-	-	-
Other revenues	4.1	67.9	9.4	na	na	na
From other accounts	3.9	30.1	44.0	na	na	na
Total	100.0	100.0	100.0	na	na	na

Note 1: Based on the initial budget for 2005. The total covers annual revenues excluding bond issues and borrowing.

Note 2: 'From other accounts' comprises funds received from other government sector accounts.

Note 3: 'Other revenues' comprises total non-borrowing annual revenue except tax revenues and revenues from other accounts. Therefore, surplus funds from the previous year's account are included.

Note 4: For special accounts, revenue from fiscal loan funds is considered as revenue from borrowing.

Note 5: For special accounts, funds from other special accounts are deducted. When several accounts exist within a special account, these are also deducted.

Note 6: For quasi-governmental organizations, etc., na indicates that relevant data is not available.

Sources: 2005 Budget; 'Financial Affairs Figures', Upper House Budget Committee Research Office.

## (iii) Example: Annual revenue allocated for repayment of quasi-governmental organization debt.

Trillion yen	Public corporation: Japan Highway Public Corporation	Independent Administrative Agencies: Japan Student Services Organization	Government-affiliated corporation: Government Housing Loan Corporation
Tax revenues	Cannot impose taxes	Cannot impose taxes	Cannot impose taxes
Other revenues	1.2	0.3	9.6
From other accounts	0.0	0.0	0.4
Total	1.2	0.3	10.0

(iv) Example: Proportion of annual revenue allocated for repayment of quasi-governmental organization debt.

%	Public corporation: Japan Highway Public Corporation	Independent Administrative Agencies: Japan Student Services Organization	Government-affiliated corporation: Government Housing Loan Corporation
Tax revenues	-	-	-
Other revenues	100.0	84.8	95.7
From other accounts	0.0	15.2	4.3
Total	100.0	100.0	100.0

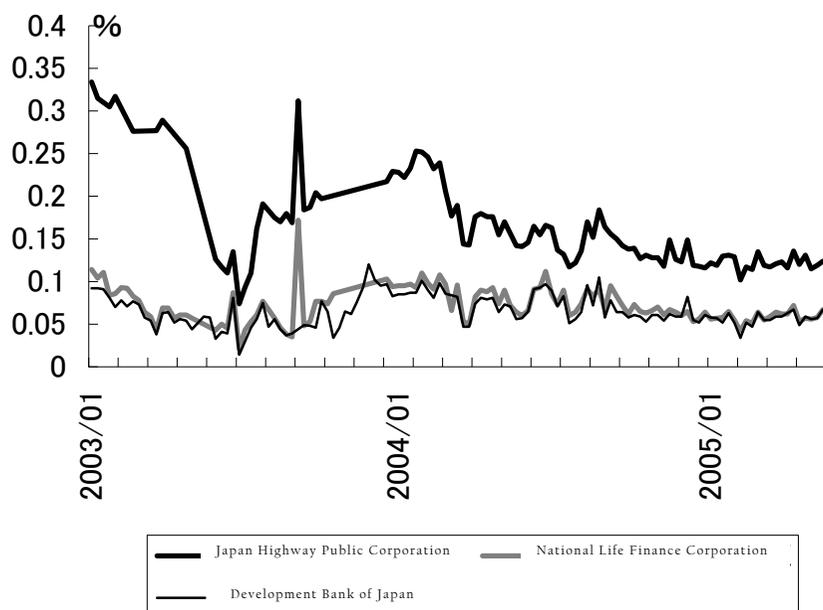
Note 1: Based on the initial budget for 2005. Total annual revenue refers to all positive cash flow except revenue from borrowing.

Note 2: 'From other accounts' comprises funds received from other government sector accounts.

Note 3: 'Other revenues' refers to annual revenue except tax revenues, 'From other accounts', and borrowing. Therefore, surplus funds from the previous year's account are included. This is basically the same as 'operating income'.

Sources: Mitsubishi Research Institute, Inc., based on, 2005 Budget; 'Financial Affairs Figures', Upper House Budget Committee Research Office.

Figure 5: Yield Spreads for FILP and National Bonds



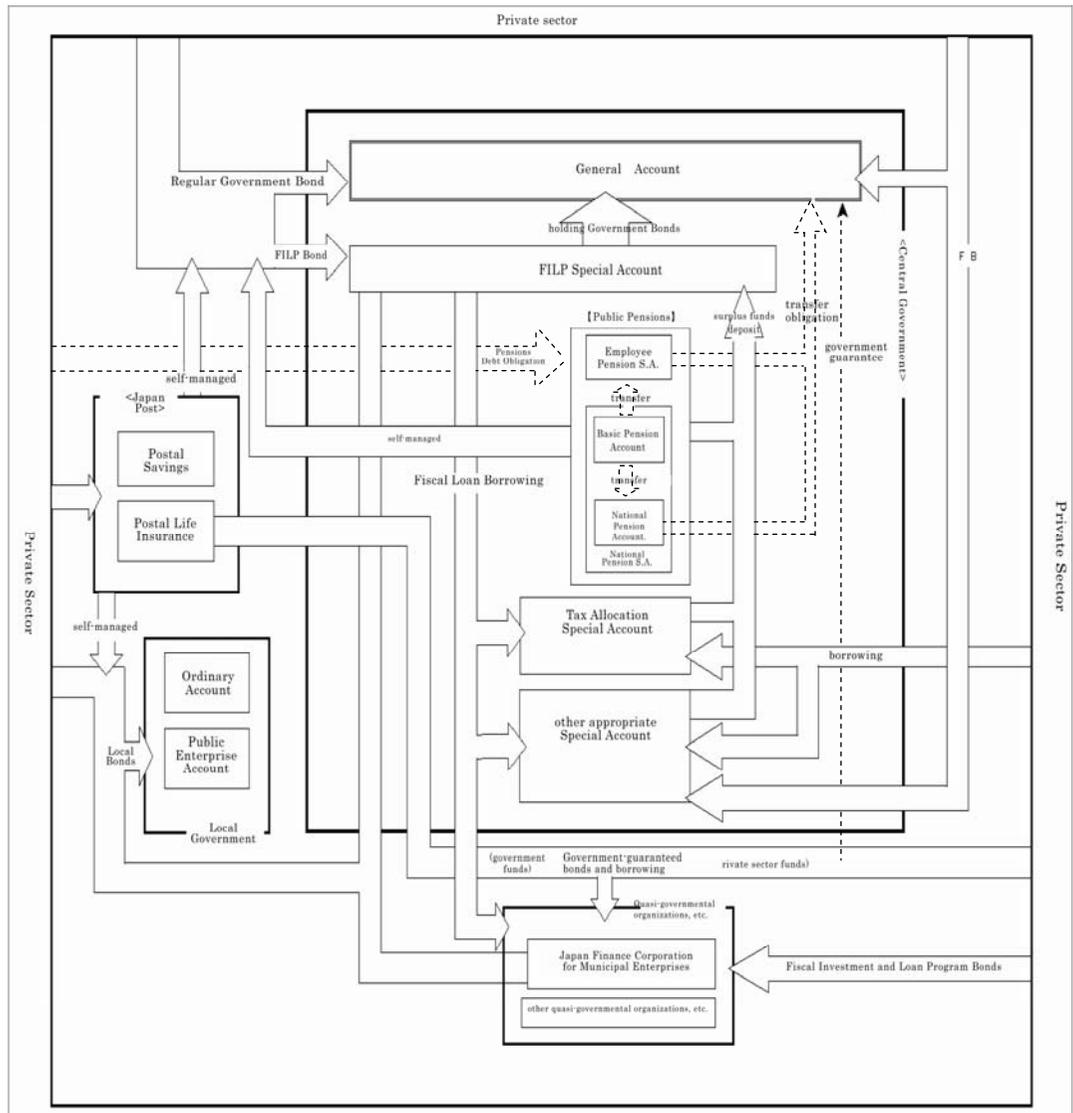
Note 1: Japan Highway Public Corporation third issue FILP Bond (redeemable June 20, 2007); National Life Finance Corporation first issue FILP Bond; Development Bank of Japan third issue FILP Bond (redeemable June 20, 2007).

Note 2: The spread is the gap between yield and the medium-term 5-year National Bond (issue 20, redeemable June 20, 2007).

Note 3: Based on weekly data.

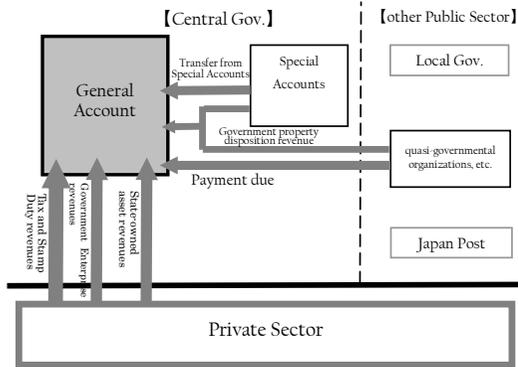
Source: Bloomberg.

Additional Figure I: Credit and Debt Within Government Departments



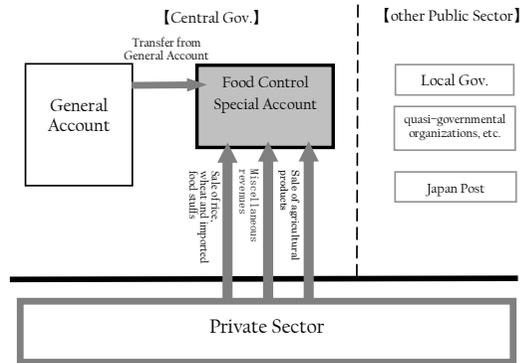
Additional Diagram 2: Public Debt Repayment Funds (\*)

1. Construction Bonds, Deficit Bonds

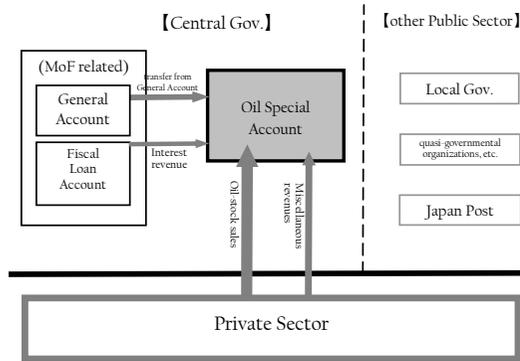


Note: revenue from sources other than special accounts is omitted.

2. Financing Bills (Food Agency Bonds)

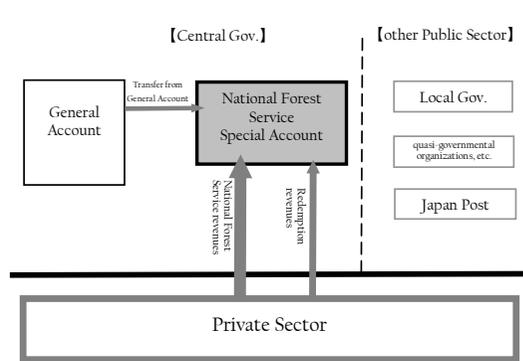


3. Government Borrowing (Oil Special Account)



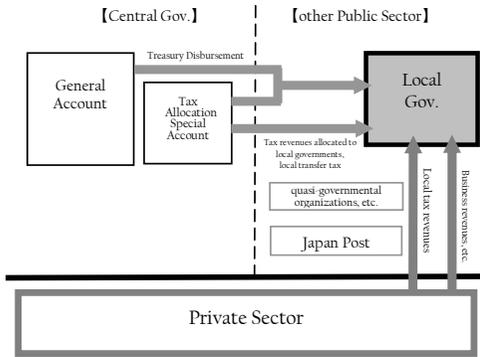
Note: for comparison with Diagram 1, the Finance Special Account is incorporated into the Ministry of Finance.

4. Government Borrowing (National Forestry Project Special Account)

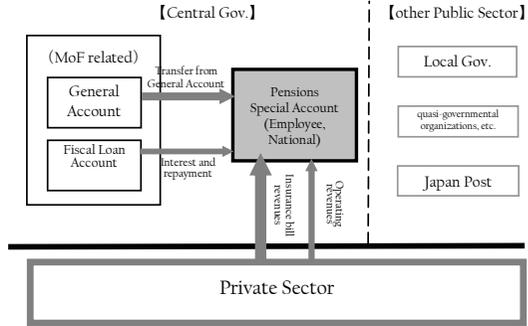


\* Note: Additional Diagram 2 is based on the main annual revenue of the 2005 Budget, excluding debts.

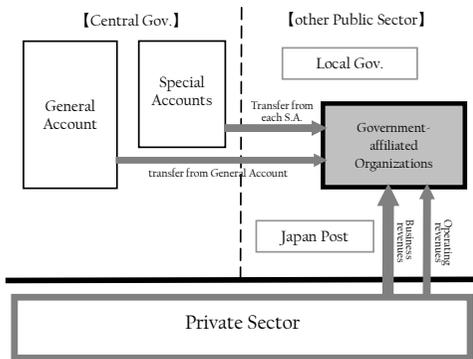
5. Local Government Debt



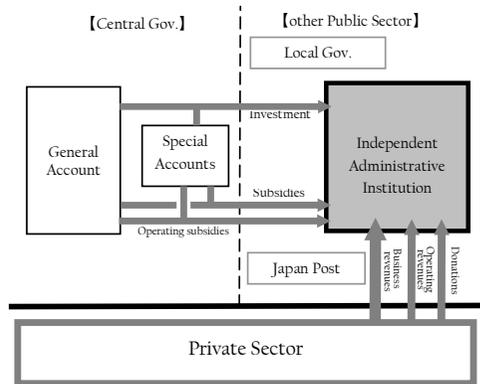
6. Pensions Obligations



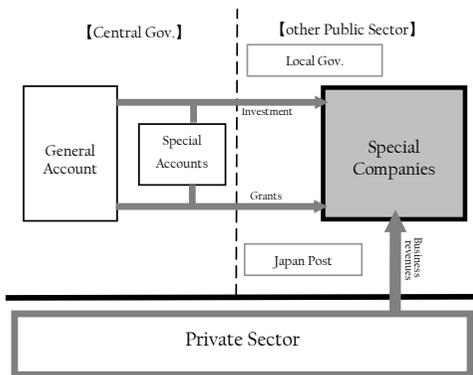
7. FILP Bonds, Government Guaranteed Bonds (Government-affiliated organizations)



8. FILP Bonds, Government Guaranteed Bonds (independent administrative institution)



9. FILP Bonds, Government Guaranteed Bonds (Special company)



## References

[Japanese papers]

- Aoyama et al., *Hasan-hou Gaisetsu*(2<sup>nd</sup> edition), Yuuhikaku (2001)
- Akai, Nobuo, “Kouteki-bumon niokeru sofutona yosan-seiyaku-mondai”, *Incentive-sekkei no keizaigaku*, Keisou-shobou (2003)
- W. Suzuki, “Nenkin, iryou, kaigo-hoken saimu wo kouryoshita seifuno balance-sheet to seditakan-son’eki keisansho”, *Economics*(Autumn, 2000), Touyou-keizai-shimpousha (2000)
- Arai, Chikako, “Beikoku no jichitai-hasan—US California Orange county no hasan-senkoku”, *Chihou-jichitai-kenshuu*, 1998.10 (1998)
- Ikeo, Kazuhito, “Iken-sho”, submitted memo to Yuusei-sanjigou no arikata nitsuite kangaeru kondankai (2002)
- H. Seshita, “Nihon niokeru kigyou-hatan-shori no seidoteki wakugumi”, *Kaisha-hou no keizaigaku*, Univ. of Tokyo Press (1998)
- Ito, Hideshi and H. Osano ed., *Incentive-sekkei no keizaigaku*, Keisou-shobou (2003)
- Ito, Makoto, *Hasan-hou 3<sup>rd</sup> edition*, Yuuhikaku (2001)
- , “Tousan-shori-seido no rinen to hatten”, *Minji-soshou-hou/Tousan-hou no gendaiteki-chouryuu*, Gakujutsu-sensho (1998)
- Inui, Fumio ed., *Zusetsu Nihon no koukyousai*(Heisei 17 version), Zaikeishouhousha (1995)
- Ihori, Toshihiro et al., *Zaisei-akaji no keizai-bunseki: Chuuchoukiteki-shiten karano kousatsu*, Economic Planning Agency (2000)
- Ihori, T. and T. Doi, *Zaisei-tokuhon 6<sup>th</sup> edition*, Touyou-keizai-shimpousha (2001)
- Iwamura, Masahiko, *Shakai-hoshou-hou I*, Koubun-dou (2004)
- Uga, Katsuya, *Chihou-jichi-hou gaisetsu*, Yuuhikaku (2004)
- Usui, Mitsuaki, *Yousei Jichitai zaisei/ zaimu-hou*, Gakuyou-shobou (1999)
- Egashira, Kenjiro, “Koukyou-sai no default housei”, Gakujutu sousei project, <http://www.j.u-tokyo.ac.jp/legalsys/kiroku-keizai.htm#egachan> (2002)
- Endou, Yasuhiko, *Chihou-koufuzei-hou chikujou kaisetsu 3<sup>rd</sup> edition*, Gyousei (1996)
- Oodera, Hiroyuki, “California shuu, Orange gun no hasan”, *Yuusei-kenkyuusho-geppou* (2001)
- Okamoto, Yoshiro, et al., *Dokuritsu Gyousei Houjin Kaikai*, Touyou-keizai-shimpousha (2001)
- Kitami, Tomitaro, “Chihou-zaisei-seido no saisekkei-Chihou governance kaikaku karano shiten”, *RIETI Discussion Paper Series 04-J-017* (2004)
- , “Chihou-zaisei no saisekkei”, *Nihon no zaisei-kaikaku*, Touyou-keizai-shimpousha (2004)
- Oritani, Yoshiharu, “Chuuou-ginkou-seido no keizaigaku”, mimeo (2001)
- Kato, Kazuhisa, *Zaiseigaku-kougi - seifu-bumon no keizai-bunseki*, Bunshindou (2003)
- Kato, Tomoaki, et al., *Shakai-hoshou-hou 2<sup>nd</sup> edition*, Yuuhikaku (2003)
- Kadono, Nario and H. Takizawa, “Zaisei-mondai to kanryou-soshiki/jinji-system”, *Nihon no*

- zaisei-kaikaku* (2004)
- Kawakita, Tsutomu, *Zusetsu Nihon no zaisei*(Heisei 16 version), Touyou-keizai-shimpousha (2004)
- Goto, Yasuo, et al., “Nobel-shou to keizai-gakusha”, *Nihon-keizai-shimbun*(Yasashii keizaigaku syries) (2003)
- Kondou, M., “Governance to kaihatu-enjo”, JICA report (2003)
- Sakakibara, Eisuke, et al., “Naibu-soshiki no joutai-kuukan model”, *Keizai-bunseki* Vol. 77 (1979)
- Sakurauchi, F., “Zaitou-kan-sai ni kansuru shoronten”, *Gendai-kigyuu-hou/Kinyuu-hou no kadai*, Koubundou (2004)
- Satou, Tetsuo, “Dai3-sector-kigyuu no tousan to chiiki-juumin”, *Tousan-hou-taiki: tousan-hou to shimin-hogo no houri*, Koubundou (2001)
- Takayama, Noriyuki, *Shinrai to anshin no nenkin-kaikaku*, Touyou-keizai-shimpousha (2004)
- , “Nenkin-kaikaku: Balance sheet approach”, Discussion Paper No.187, Project on Intergenerational Equity, Institute of Economic Research, Hitotsubashi University (2003)
- Chihou-zaisei-seido-kenkyuu-kai, ed., *Yasashii chihou-zaisei 2<sup>nd</sup> edition*, Gyousei (2000)
- Tsuru, Kotaro, “Seifu-soshiki to kanryou no incentive: Chuuou-shouchou-saihen no hyouka”, *RIETI Economic Review* No.4(2002)
- Doi, Takeru, “Zeigen-ijou to chihou-sai-kaikaku no arikata”, *Chihou-bunken-kaikaku no keizaigaku*, Nihon-hyouronsha (2004)
- , “Chihou-jichitai no hatan wa arieruka”, *Mitsubishi Trust Bank Chousa-jouhou* (2004)
- , “Chihou-sai to hatan-shori scheme”, *Financial Review*, Policy Research Institute, Ministry of Finance (2004)
- Nakagawa, et al., *Zaisei-touyuuushi*, Ookura-zaimu-kyoukai (1994)
- Nishizawa, Kazuhiko, *Nenkin-daikaikaku*, Nihon-keizai-shimbunsha
- Nishizawa, Munehide, “Iwayuru ‘Kouhoujin’ no hasan-nouryoku ni tsuite”, *Hanrei-Times* (1983)
- Hasegawa, Y., *Kempou 3<sup>rd</sup> edition*, Shinsei-sha (2004)
- Hatta, Tatsuo and N. Oguchi, “Nihon-koku-seifu no nenkin-jun-saimu”, JCER (1993)
- Hamada, Keizo, ed., *Kokusai: Hakkou/Ryuutsuu no genjou to shourai no kadai*, Ookura-zaimu-kyoukai (1997)
- Hayashi, Takehisa, *Chihou-zaisei-tokuhon 5<sup>th</sup> edition*, Touyou-keizai-shimpousha (2003)
- Hayashi and Hashimoto, *Nyuumon Chihou-zaisei*, Chuuou-keizaisha (2002)
- Fujita, Takeo, *Gendai-nihon-zaisei-shi*(middle vol.), Nihon-hyouronsha (1978)
- Hori, Katsuhiko, *Nenkin no gokai*, Touyou-keizai-shimpousha (2005)
- Homma, Masaaki, ed., *Seifu-touchi no kenkyuu*, International Institute for Advanced Studies report (2001)
- Maeda, Hiroshi, “Jichitai-sishin de susumu dai-3-sector kaikaku”, *Nikkei Business* (1999.7.26), 137 (1999)
- Maruki and Kawasahima, “Koukyou-sai(Seifu-hoshou-sai, chihou-sai) hakkou-shijou no genjou to kadai”, *Koukyou-sai-sijou wo meguru shomondai*, Touyou-keizai-shimpousha (1996)

- Minami, Y., "California shuu, Orange gun no hasan ni tsuite", *Chihou-sai-geppou* (1995)
- Miyagawa and Yamamoto ed., *Public Governance*, Nihon-keizai-hyouronsha (2002)
- Miyawaki, Atsushi, *Zukai zaisei no shikumi*, Touyou-keizai-shimpousha (1997)
- Yanagawa, Noriyuki, *Keiyaku to soshiki no keizaigaku*, Touyou-keizai-shimpousha (2000)
- Yamada, Masatoshi, "Koukyou-sentaku-ron no ruikeika to kadai: Seisaku-kettei-riron ni tsuiteno tembou", *Faculty of Economics, Osaka Univ., Discussion Paper Series No.50* (2004)
- Yamamoto, Atsushi, "Gyousei-katsudou wo ninau houjin no governance wa seifu nishika ninaenai", *Kinyuu-zaisei-jijou* (2002.7.8) (2002)
- Yamamoto, Kiyoshi, *Seifu-kaiki no kaikaku: Kuni, jichitai, dokuritsu-gyousei-houjin kaiki no yukue*, Chuuou-keizaisha (2001)
- Yamamoto, Hiroshi, "Zaisan-ku no hasan-nouryoku", *Bessatsu Jurist* No.163, *Tousan-hanrei-hyakusen 3<sup>rd</sup> edition* (2002a)
- , "Tokushu-houjin no hasan-nouryoku", *Minji-kyuusai-tetsuzuki-hou 2<sup>nd</sup> edition*, p331, *Houritsu-bunkasha* (2002b)
- Yokoyama, Akira, *Zaisei no koukyou-sentaku-bunseki*, Touyou-keizai-shimpousha (1995)
- Institute for Monetary and Economic Studies, Bank of Japan, *Atarashii Nippon-Ginkou: Sono kinou to gyomu, revised edition*, Yuuhikaku (2004)
- Japan Center for Economic Research, *21seiki no shakai-hoshou no tembou to seisaku* (2002)
- Ministry of Finance, *Saimu-kanri report* (2004)
- , *Kokusai-toukei-nempou*
- Mitsubishi Research Institute, *Kouteki-saimu-kanri no arikata nitsuite*, policy proposal paper (2004)
- PHP Research Institute, *Seifu-kinyuu risutora-plan* (2003)

[English Papers]

- Barro, R.J. and D. Gordon, "A Positive Theory of Monetary Policy in a Natural Rate Model", *Journal of Political Economy*, vol. 91(4) (1983)
- Bernheim, D., and M. Winston "Common Agency", *Econometrica*, vol. 54(4) (1986)
- Buchanan, J., "Rent Seeking and Profit Seeking", *Toward a Theory of the Rent-Seeking Society*, Texas A&M Press (1980)
- Coase, R.H., "The Nature of the Firm", *Economica*, New Series, vol. 4(16) (1937)
- Dixit, A., *The Making of Economic Policy: A Transaction-Cost Politics Perspective*, MIT Press (1996)
- Dixit, A., G.M. Grossman and E. Helpman, "Common Agency and Coordination: General Theory and Application to Government Policy Making", *Journal of Political Economy*, vol. 105(4) (1997)
- Hirshman, A.O., *Exit, Voice and Loyalty*, Harvard University Press (1970)
- Holmstrom and Milgrom, "Multitask Principal-Agent Analyses: Incentive contracts, Asset

- Ownership, and Job Design”, *Journal of Law, Economics and Organization*, 7 (1991)
- Ikeo, Kazuhito and Y. Goto, “The government and the financial system: An overview”, *Public Policy Review* Vol.2 No.1, Policy Research Institute, Ministry of Finance (2006)
- International Monetary Fund and the World Bank, *Guidelines for Public Debt Management* (2001)
- Kornai, J., “Resource-Constrained versus Demand-Constraint Systems”, *Econometrica*, vol. 47(4) (1979)
- Kydland, F.E., and E.C. Prescott, “Rules Rather than Discretion: The Inconsistency of Optimal Plans”, *Journal of Political Economy*, vol. 85(3) (1977)
- Laffont, J.J. and J. Tirole, “The Dynamics of Incentive Contracts”, *Econometrica*, vol. 56(5) (1988)
- A Theory of Incentives in Regulation and Procurement*, MIT Press (1993)
- Mueller, D.C., *Public Choice II*, Cambridge Univ. Press (1989)
- Niskanen, W.A. Jr., *Bureaucracy and Representative Government*, Chicago: Aldine-Atherton (1971)
- , “Bureaucrats and Politicians”, *Journal of Law and Economics*, vol. 18(3) (1975)
- Nordhaus, W.D., “The Political Business Cycle”, *Review of Economic Studies*, vol. 42(2) (1975)
- Schmidt, K. M., “Incomplete Contracts and Privatization”, *European Economic Review*, vol. 40(3) (1996)
- Tirole, J., “The Internal Organization of Government”, *Oxford Economic Papers*, vol. 46(1) (1994)
- Tullock, G., “The Welfare Costs of Tariffs, Monopolies and Theft”, *Western Economic Journal*, vol. 5(3) (1967)
- Williamson, O.E., *The Economic Institutions of Capitalism*, New York: Free Press (1985)
- Woodford, Michael and Randal C. Picker, “When Cities Go Broke: A Conceptual Introduction to Municipal Bankruptcy”, *The University of Chicago Law Review*, vol. 60(2) (1993)