Paying for the FILP

Takero Doi
Faculty of Economics
Keio University

and

Takeo Hoshi
Graduate School of International Relations and Pacific Studies
University of California, San Diego

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ABSTRACT

This paper examines the financial health of the Fiscal Investment and Loan Program (FILP) as of the end of March 2001. We study the financial conditions of FILP recipients, which include public corporations and local governments. We find many are de facto insolvent. Our estimates suggest as much as 75% of the FILP loans are bad. The expected losses are estimated to be about ¥75 trillion (over 15% of GDP). We also studied the effects of the FILP reform of April 2001, which tries to introduce market discipline in allocation of FILP funds. No significant changes in financial flow are detected, yet. The financial market seems to differentiate the newly introduced FILP agency bonds, which are supposed to without government guarantee, from government guaranteed bonds. It is too early to tell, however, whether the financial market will become an effective monitor of FILP agencies.

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The Fiscal Investment and Loan Program (FILP) in Japan collects funds through government financial institutions (most notably postal savings) and uses the funds to finance public projects undertaken by government-affiliated corporations or to finance government loans to borrowers in targeted areas (targeted industries, small firms, mortgage borrowers, etc). Many countries have government-sponsored loan programs: the Japanese program is distinguished by its size. At the end of fiscal 2000 (March 2001), the FILP program involved ¥418 trillion, equal to some 82% of GDP, and the program's uses of funds statement totaled more than GDP. The postal savings system, the most important source of funds for the FILP is the world's largest financial institution. It held ¥250 trillion in deposits (35% of total household deposits) at the end of fiscal 2000.

The FILP may promote welfare and economic growth by financing projects that have such large externalities that private institutions would not undertake them. It also may be an impediment to welfare and growth by allowing the government to pursue wasteful projects. Historically the program has ignored market information, and its sheer size makes the cost of resource misallocation enormous.

This chapter examines the financial condition of the FILP and analyzes reforms begun in April 2001.

The goal of examining the FILP's financial condition is to see if it constitutes a serious impediment to the recovery of the Japanese economy. FILP's accounts are notoriously opaque. We scrutinize the balance sheets of recipients of FILP funds, including special public corporations (SPCs), central government accounts, and local governments. Through this exercise, we can estimate the amount of financial losses of the FILP either buried in current balance sheets or expected to emerge in the near future.

The data show that existing losses and expected transfers to cover future losses are enormous. These losses are implicit claims on the government (and hence on taxpayers). Together with other implicit claims, such as the cost of cleaning up the financial sector (see chapter ¿ by Fukao), FILP losses can seriously impede economic recovery.

Because the FILP is supposed to finance socially useful projects that private institutions are unwilling to undertake, it is natural for there to be losses. And, in fact, the central government has been transferring funds from its accounts to numerous FILP agencies in the form of explicit subsidies and capital contributions. The losses may be a result of insufficient past subsidies for social-welfare-increasing (but high-externality) projects. However, any argument that stresses the welfare-enhancing aspects of the FILP must be weighed against the substantial cost. That so little has

been done until recently – even by the government – to explore the cost-benefit of FILP programs is telling.

Our second purpose is to describe the reform of the FILP introduced in April 2001 and to evaluate its likely impact. The main stated goal of the reform is the introduction of "market discipline" in the allocation of funds. Thus, we examine whether reform can be expected to reduce FILP losses in the future.

The work presented here updates and expands that of a number of researchers (primarily available only in Japanese), as outlined in the Appendix on the literature.

The chapter is organized as follows. After briefly describing how the FILP is structured and its size, we begin our investigation of the financial health of FILP agencies. This involves performing a close examination of the balance sheets of the major FILP recipients, correcting for various accounting problems. The financial conditions of local governments, which are also important borrowers of the FILP, are then taken up. This is a topic not covered extensively by other researchers.

We then discuss the essence of the FILP reform introduced in April 2001, and evaluate the effects that are observable so far. We conclude by pointing out the direction for future research.

1 Background

The FILP is a government-sponsored program that finances government financial institutions and other government-related agencies. It is not just a system of simple financial intermediation because the government and FILP agencies are also linked through flows of direct grants and subsidies. This section presents a brief overview of the structure, size, and history of the FILP.

1.1 Structure and Size

Figure 1 diagrams the structure of the FILP before the 2001 reform, paying particular attention to the inter-relations between financial intermediation and fiscal transfers. The magnitude of the sums involved is given in Table 1, sources of funds, and Table 2, uses of funds.

The Trust Fund Bureau (TFB) Fund is by far the most important source, providing some 83% of funds as of the end of March 2001. The majority of the TFB Fund comes from postal savings. Its other major source is pension reserves, which are the difference between the premium receipts and pension payouts of the public pension system during the current fiscal year.

Uses of FILP funds are grouped into seven categories, as shown in Table 2. Box 1 explains the FILP loan to the general account.

Box 1: FILP Loan to the General Account

The ¥7.3 trillion FILP loan to the general account relate to privatization of the former Japan National Railroads (JNR). The JNR started to run deficits in 1964, but was allowed to continue operation and to add to its debt. When JNR was privatized in 1987, ¥25.5 trillion of its debt and some JNR assets were transferred to a newly created JNR Settlement Corporation (JNRSC). The remaining debt was assumed by the central government and creditors (including the TFB) received newly issued Japanese government bonds. JNRSC was supposed to pay down its debt over 10 years using proceeds from sales of the assets it received. Assets sales stalled and the amount of liabilities actually increased. When the statute establishing JNRSC expired in 1997, the government assumed almost all of its ¥28.3 trillion debt. Thus, the ¥7.3 trillion loan from the FILP should be considered a loan to these already-failed corporations.

The first five uses are formally put in the "FILP Plan" every year and submitted to the Diet as an attachment to the budget bill. Thus, the size of the FILP Plan (¥418 trillion for the end of March 2001) is smaller than the total size of the FILP. This is because the total program includes the TFB's holding of government bonds and other financial assets.

The FILP Plan disburses funds to many local governments, which account for 24% of net FILP loans, and 57 other entities. Of the latter, 11 are central government accounts (Postal Savings Special Account, 9 other special accounts, and JNR loans) and 46 are "FILP agencies" (8 government financial institutions, 27 SPCs, and 11 special firms).

Table 3 summarizes data on the 58 entities that had outstanding FILP loans or government-guaranteed bonds (which are held by the public but considered a part of the FILP) at the end of March 2001. The total was ¥414 trillion, or ¥357 trillion net of ¥57 trillion loaned back to the postal savings system.

1.2 Historical Development

When the FILP started in the 1950s, financing economic recovery was the most important goal. Hence, the FILP heavily targeted industrial financing through the Japan Development Bank (JDB,

predecessor of the present Development Bank of Japan) and other government financial institutions. When the economy recovered and started to grow rapidly, the focus gradually shifted to housing (including mortgage lending) and projects to improve living standards (such as building sewer systems). Providing assistance to small businesses also became an important goal. Financing industrial development does not constitute a large area for the FILP Plan any more: only 1% of new funds are used for this purpose. Table 4 provides a breakdown of the FILP Plan for fiscal 2001 by target areas.

2 Financial Condition of FILP Agencies

In this and the next five sections, we examine the financial condition of the FILP recipients other than the local governments, which collectively receive 76% of the total net FILP loans. The financial condition of the local governments is examined in Section 8.

The first step in analyzing the financial condition of the FILP recipients is to look at the self-reported accounting information. By their own accounts, nine recipients of FILP funds are insolvent. That is only a very partial picture, however. The publicly disclosed accounting statements of FILP recipients exhibit serious problems, which make it hard to assess their financial conditions.

To provide a more accurate list of insolvent agencies and estimate the cost to taxpayers of the FILP, in each of the next four sections we look at a problem area and make adjustments to provide a more accurate assessment.

The first three areas involve financial losses already accumulated. The losses already made come from two principal sources: under-reserving for bad loans and over-valuing assets. In addition, other adjustments need to be made to the stated capital (reserves) of many FILP participants. Our analysis of these areas involves examining the balance sheets of FILP participants. [1]

The fourth area is the present value of the cost of covering expected future losses that will arise if FILP agencies continue to operate. To estimate this, we rely on projections made by the agencies themselves.

[1] Five special accounts and one special firm do not publish balance sheets regularly, so they are excluded from our analysis. Fortunately, the ¥4.5 trillion in FILP loans to them amounts to just 1.3% of net FILP loans. The six are noted on Supplemental Table 1, which is available on our web sites, listed at the end of the references. Also available on our web sites are the balance sheets and income statements included in the administrative cost statements compiled by the SPCs studied here.

3 Capital (Reserves)

In assessing financial condition, we have paid special attention to the amount of capital (usually called reserves in public corporation accounting). The amount of capital measures how much loss the entity can sustain without requiring additional resources from the government. Negative capital means de facto insolvency. Because the government is both a large creditor and the equity holder of public corporations, insolvency implies future losses for the government, and hence for taxpayers. If the capital is positive but very small, taxpayers are risk for providing more money if even small losses occur. We will see that this is a pervasive problem.

The amount of capital falls for many corporations when they restate their balance sheets based on accounting standards for the private sector. By their own accounts, nine agencies are insolvent (have negative capital ratios). (As an example of how labyrinthine FILP accounting is, a tenth agency is insolvent on its original balance sheet but manages to become solvent using private sector standards!)

Data on capital are included in Appendix Table 1 as column 5. Supplemental Table 2 lists the amount of capital for each government account and public corporation as reported on its original balance sheet (that is, using accounting standards for public corporations) and on its administrative cost statement (using standards for private sector firms), as well as the capital ratio. It is available on our web sites, listed at the end of the references.

There is a quite serious accounting problem regarding the largest recipient of FILP funds, Government Housing Loan Corporation (GHLC), and two small special accounts. Their balance sheets list cumulative losses on the *asset* side. The losses are to be paid off over time by gradually reducing capital. Because the losses have been identified already and are not likely to be eliminated (without a corresponding reduction of the capital or infusion of new capital), it is necessary to subtract these items from capital immediately to get an unbiased picture of their current financial condition. In our analysis, the cumulative losses are subtracted from assets in calculating these agencies' capital. Such losses amount to ¥518.6 billion in total.

4 Non-Performing Loans

Disclosed non-performing loans totalled ¥5.6 trillion in March 2001, which is 3.2% of total loans made by the institutions. This is a lower bound for the level of bad loans. Although reporting of

non-performing loans may be better than before, the small loan-loss reserves of many institutions suggest serious under-reserving. Table 5 column 1 summarizes the amount of bad loans disclosed in the administrative cost statements. (Supplemental Table 3 has data for each agency. It is available on our web sites, listed at the end of the references.)

Bad loans on the administrative cost statements of government financial institutions are "risk management loans," defined in the same way as for private sector banks. These are loans to failed enterprises, loans more than 3 months past due, and restructured loans (that is, have relaxed conditions). Note that loans clearly headed for trouble, but technically still performing, do not need to be included. SPCs must disclose only loans that are past due more than 6 months; they hold 6.4% of the bad loans in the table.

In determining under-reserving, we assume 100% of reported bad loans will be lost eventually. The 100% loss rate may seem extreme, but the late 1990s experience of private sector banks shows this actually is a rather conservative assumption. At the end of March 1996, the first time that all banks in the private sector disclosed risk-management loans, the total was ¥28.5 trillion. Disposal of bad loans cost banks ¥34.7 trillion in the following three years. Despite writing off 122% of the starting level, total risk-management loans at the end of March 1999 stood at ¥29.6 trillion, slightly higher than the initial level! This suggests risk-management loans at the end of March 1996 were severely under-reported. It seems reasonable to expect a similar magnitude of under-reporting by SPCs.

Of the 26 agencies covered, only 5 have reserves equal to or in excess of their bad loans. For the 21 agencies that are under-reserved, estimated under-reserving is ¥3.2 trillion. One agency, JFM, does not have any loan loss reserves on its balance sheet, but it should (Box 2). Total under-reserving including JFM reaches ¥8.3 trillion. Table 5 summarizes loan loss reserves and reserves as a percentage of bad loans.

Box 2. Japan Finance Corporation for Municipal Enterprises

Table 5 and Supplemental Table 3 do not list Japan Finance Corporation for Municipal Enterprises (JFM), which raises fund by issuing government guaranteed bonds and lends to local governments and public corporations owned by local governments, because it claims to have no risk management loans. Because we have budget data for local governments, we could estimate JFM under-reservation in the same way we estimate expected losses on FILP funds lent to local governments. The details are reported later, but the calculation suggests that ¥5,072.5 billion of

JFM loans is likely to be uncollectible, and thus the amount of under-reservation also is ¥5,072.5 billion.

5 Valuation of Physical Assets

The value of physical assets reported on balance sheets of SPCs may not reflect the true value of the assets, primarily because they are not properly depreciated, and also because assets are not marked-to-market.

When book value (original cost) is used for land purchased a long time ago, its actual value can be significantly understated. On the other hand, if a corporation has assets that have lost value (such as land purchased in the late 1980s), book value may overstate the true value.

Improper depreciation of physical assets is a more serious problem and it tends to overstate the level of existing assets. For example, Iwamoto (1998a, p 166) reports that Japan Highway Public Corporation is allowed to (and actually does) accumulate reserves for depreciation out of profits whenever it feels it is convenient, rather than charging depreciation every year. Hence the assets figures on its balance sheet are gross capital numbers, which include past depreciation. To get net numbers, one has to subtract cumulative reserves (for future redemption of loans) from the capital. Capital calculated in this way still suffers from the problem of under-reporting of depreciation, because the corporation charges depreciation only when a sufficient amount of profit is realized.

5.1 Revaluing Assets

For 12 corporations that carry large amounts of physical assets on their books, we have revalued their assets to reflect market value changes and proper depreciation. All are involved in urban development or providing infrastructure.

Comparing the amounts reported on their original balance sheets to those reported in their administrative cost statements, some public corporations adjusted their assets figures substantially downward. Still, our calculations suggest the official numbers remain over-stated for many

agencies, and the level of mis-valuation varies significantly. For the 11 with over-valuations, the total is ¥11.4 trillion.[2]

6 Future Losses

In addition to the losses already incurred, some FILP agencies are expected to generate more financial losses if they continue to operate. Carefully estimating the size of such future losses is beyond the scope of this chapter. Instead, we rely on the policy cost analysis conducted by each FILP agency.

The analysis, which calculates a present discounted value of estimated government subsidies needed to cover the difference between revenues from FILP projects and their costs, started in fiscal 1999. That year, the analysis was applied to 5 agencies. In fiscal 2000, coverage was extended to 14 agencies, and with fiscal 2001, all 33 agencies that receive new funds from the FILP were required to publish a policy cost analysis. Kikkawa et al (2000) have found that the published policy cost analyses often seriously over-estimate future revenues, and hence under-estimate the policy cost. Thus, the published data should be taken as a lower bound for expected future losses.

Projects are expected to generate more revenue than costs at 5 agencies. For the 28 agencies expecting policy costs, the total as of March 2001 is ¥11.7 trillion; for all 33 agencies the projected cost is ¥11.4 trillion. (The estimate made by each agency is in Appendix Table 1 column 3.)

7 FILP Agency Losses

Table 6 summarizes and totals the financial losses revealed by our analysis in the previous sections. At March 2001, for the 34 FILP agencies for which we estimate losses the total was ¥31.0 trillion. These losses reduce the agencies' net capital, in some cases giving them negative net capital.

Our analysis finds 20 FILP agencies that are insolvent (have negative net capital) including projected policy costs. Of these, 9 are admittedly insolvent (have negative capital on their

[2] Supplemental Appendix A describes the revaluation method in detail and discusses the depreciation rates and land price series used for each corporation. Data are in Supplemental Table 4. These are available on our web sites, listed at the end of the references. Two other agencies report significant physical assets, but we are unable to revalue their assets because changes in accounting rules in 1986 prevent a consistent time series.

administrative statements), and another 11 are shown to be insolvent after adjustments for the accounting problems we have outlined. Data are in Appendix Table 1.

The 20 insolvent agencies represent more than 60% (¥217 trillion) of net FILP fund loans. Not all of the bad loans have been, or will be, truly lost to the FILP. Indeed, because the borrowers are all government or quasi-government institutions, we expect all FILP loans to be paid in full eventually. Taxpayer money will be used if necessary, as has already happened for the former JNR. That means the funds the agencies receive to pay back FILP loans should be considered a cost of the FILP, one that will be borne by future taxpayers.

Thus, a comprehensive approach to the FILP's cost to the public is to estimate what it would take to bail-out all FILP agencies. This involves computing the amount of capital originally contributed by the government that has already been lost and the cumulative losses that exceed the government's original capital. Data for 44 agencies are in Appendix Table 2.

The government has lost all or part of its capital in 40 agencies, a total of almost ¥12.4 trillion. Losses that exceed original capital add another ¥23.4 trillion, for a total loss of ¥35.8 trillion.

8 Local Governments

Of ¥357 trillion of net FILP funds outstanding at the end of March 2001, ¥87 trillion (24.4%) were loans directly to local governments and public enterprises owned by local governments. These entities also borrow from the JFM, which is a large recipient of FILP funds. Thus, the solvency of local governments is an important determinant of the financial health of the FILP.

The amount of FILP loans to local governments each year is determined in a process that is led by the Ministry of Public Management, Home Affairs, Posts and Telecommunications (Ministry of Home Affairs before the government restructuring in January 2001). The process requires any local government planning a bond issue to obtain Ministry permission in advance. When permission is granted, the Ministry also decides how much of the bonds will be bought by the TFB Fund and Postal Life Insurance Fund.

There is no mechanism ensuring FILP loans go only to financially healthy entities. Indeed, loans are routinely used by the Ministry to distribute funds to financially troubled local governments and may even be skewed toward such governments. Doi (2002) found that a local government that depends heavily on FILP loans tends to have low tax revenues and a large amount of

"local-allocation tax grants" (lump-sum grants distributed by the central government to make up for shortages in local tax revenues.)

Thus, one would suspect that many local governments with high debts are servicing the debts using funds provided by the central government. If this is the case, we would find a substantial amount of non-performing FILP loans to local governments.

Local governments are not required to prepare balance sheets, which prevents us from applying the approach used for FILP agencies. So, in this section, we focus on the ability for a local government to pay off its current outstanding bonds.

8.1 Local Government Solvency and Losses

For each local government, we calculate debt capacity defined as the present discounted value of future expected primary surpluses (revenues minus non-interest expenditures). If the current local government debt exceeds the calculated debt capacity, we conclude the local government is de facto insolvent.

Budget data for fiscal 1997 through 2000 are used. A lack of budget data prevents including public enterprises owned by local governments. Thus, the estimates reported are a lower bound for the losses expected in FILP loans to local governments and local public enterprises.

We start by estimating future primary surpluses for each local government, using six different scenarios.

8.1.1 Estimating Procedure

Letting S_i denote the expected primary surplus for the local government i, we can calculate the debt capacity of the government, denoted by B_i^* as:

$$B_i^* = \max\left\{\frac{S_i}{r}, 0\right\} \qquad (1)$$

where r is the constant discount rate, assumed to be 4%.

Note that we assume debt capacity cannot be below zero. Thus, if a local government runs a primary deficit, its debt capacity is defined as zero.

By comparing B_i^* to the outstanding debt as of the end of March 2001, denoted by $B_{i,2001}$, we can calculate the amount of debt that is not likely to be paid off. Let us define $DF_{i,2000}$ as:

$$DF_{i,2001} = \max\left\{B_{i,2001} - B_i^*, 0\right\} \tag{2}$$

If $DF_{i,2000}$ is strictly positive, we say the local government is de facto insolvent and the size of $DF_{i,2000}$ shows the magnitude of insolvency. The result, of course, depends critically on the estimated level of S_i.

8.1.2 The Scenarios

In the baseline case (Scenario 1), we assume this is constant and equal to the simple average of the primary surpluses in fiscal 1997-2000.

Because we estimate the future primary surplus from data for four years when the economy was stagnating (April 1997 through March 2001), it might be lower than the long-run level after the economy recovers. To address this, we consider Scenario 2, which assumes general revenue (tax revenue, local transfer taxes, and local-allocation tax) jumps 20% in the first year and stays there.

Another assumption in the baseline case is that the future primary surplus does not grow. Scenario 3 considers an alternative where the surplus grows 2% each year.

In the first three scenarios, we assume the local governments can continue to rely on local-allocation tax grants from the central government. That system, however, is likely to change in the near future. Its overhaul is an important part of the fiscal decentralization that the government has been deliberating since the mid 1990s.

A Decentralization Promotion Committee was created within the Prime Minister's Office in 1995, and started drafting a decentralization plan. The committee published its final report in June 2001. On the issue of local-allocation tax grants, the committee argues that there should be a transfer of tax bases from the central government to local governments to improve the fiscal condition of local governments and that the local-allocation tax grants should be reduced so that the transfer of tax bases is neutral to the total tax revenue of the central and local governments (see Decentralization Promotion Committee 2001, ch 3 §1).

In Scenarios 4, 5, and 6, we consider the case where the tax base for local-allocation tax grants is assumed to be transferred to local governments according to the current size of their own

tax revenues, and local-allocation tax grants become zero. Scenario 4 assumes the expected future primary surplus is given by the average for fiscal 1997-2000. Scenario 5 assumes general tax revenue increases 20% in the first year and then stays constant. Scenario 6 assumes the future primary surplus grows 2% annually.

8.1.3 Results

Table 7 summarizes the results of our calculation. At the end of fiscal 2000, total debts outstanding for 47 prefectures, 693 cities (and wards in Tokyo), and 2,557 towns and villages amounted to ¥125.5 trillion, of which ¥55.0 trillion was owed to the FILP fund and ¥8.2 trillion was owed to the JFM (Japan Finance Corporation for Municipal Enterprises). These are amounts in the Ordinary Accounts of local governments, and do not include debts in Enterprise Accounts and of public corporations owned by the local governments.

If the current system of local-allocation tax grants continues and if the primary surpluses of local governments do not improve (Scenario 1, the baseline case), the current level of local debts is estimated to exceed the debt capacity for all 47 prefectures, 326 out of 693 cities, and 1,240 of 2,557 towns and villages. The total size of the insolvency is ¥89.5 trillion. In other words, these entities have borrowed almost ¥90 trillion more than we expect them to be able to repay based on their current tax and spending patterns. Assuming that the insolvency is addressed by defaulting on the loans (rather than raising taxes or cutting spending) and that FILP loans and JFM loans have the same seniority as other debts, 64% (¥35.2 trillion) of the outstanding FILP loans to local governments and 62% (¥5.1 trillion) of the outstanding JFM loans to local governments will be defaulted.

When we assume the system of local-allocation tax grants is decentralized (Scenario 4), debt capacity improves for some prefectures and cities, while the capacity of many towns and villages declines. This is because the current allocation of tax grants is skewed in favor of financially poor local governments, which include many towns and villages.

Scenarios 2 and 5, which assume an economic recovery that increases general revenue 20%, of course produce much smaller losses. Comparing Scenarios 2 and 5 suggests that the increased debt capacity of local governments in Scenario 2 mostly results from increased local-allocation tax grants at local governments already receiving disproportionately large allocations. When the system of grants is decentralized (Scenario 5), these governments lose the extra large allocations. The result suggests that many such local governments would not be able to meet the debt payments without re-distribution through grants at the current level.

Scenarios 3 and 6, which have 2% annual growth in the primary surplus, see enhanced debt capacities of some local governments, but the expected amount of insolvency are not much different from the baselines (Scenarios 1 and 4).

9 Overall Cost to Taxpayers

Table 8 summarizes total bad loans. Of the ¥357 trillion of net FILP funds, 75% (¥267 trillion) can be considered bad loans.

Our estimate of the total cost to taxpayers to bail-out and recapitalize public corporations, cover local-government defaults, and retire former Japan Rail-related debt is ¥78.3 trillion, which amounts to over 15% of fiscal 2000 GDP (Table 9). As discussed previously, we consider this a lower bound.

10 "Fundamental Reform"

A government study in the late 1990s found three shortcomings in the FILP that have motivated change (FILP Report 2000, p 24). First, the TFB, which handled all the deposits from postal savings and pension reserves, may have become too big to be efficient. Second, too much consideration for TFB depositors (that is, the pension funds and postal savings) may have been keeping the cost of FILP funds too high. Third, the opaque nature of the FILP's subsidy component may have been hiding substantial future burdens on taxpayers.

To address these issues, effective 1 April 2001 the FILP went through a "fundamental reform." Figure 3 shows how the FILP system will look when the "transition" is complete.

The TFB has been abolished. Its personnel and assets have been inherited by the Fiscal Loan Fund (FLF). Postal savings and pension reserves are not automatically deposited into the FLF. Instead, the funds are invested in the financial market at the discretion of the postal savings and pension systems, as was the case already for a small share of the funds.

How FILP agencies raise their funds also has changed. Under the new FILP, the agencies raise funds in three ways. The preferred way is for an agency to issue its own bonds in the financial market. The Framework of the Fundamental Reform declares that each agency should "make utmost effort to issue FILP agency bonds" (FILP Report 2000, p 28). Agencies not healthy enough to place

bonds in the open market will be allowed to issue bonds with a government guarantee. Finally, agencies can tap funds raised collectively through the issuance of FILP bonds by the FLF.

10.1 Intended Results of the Reform

Use of FILP agency bonds rather than TFB funds can potentially eliminate the problem of fund costs, if some FILP agencies can issue bonds at lower yields than they have been paying the TFB for funds.

Non-transparency is addressed by requiring further disclosure of FILP agencies and the FILP system as a whole. Two specific measures have been implemented.

First, starting with fiscal 1999, the government began calculating the "policy cost" for each FILP agency and publishing the result. Policy cost is defined as the present discounted value of the stream of net transfers from the government to an agency. This measure reveals the expected cost to the government (thus, taxpayers) to sustaining operation of an agency.

Second, in June 2001, the Fiscal System Council of the Ministry of Finance came up with a recommendation on accounting disclosures for SPCs. As a result, all SPCs (many of which are FILP agencies) were required to publish "administrative cost statements" for fiscal 2000 by the end of September 2001. These are discussed in the next section.

10.2 Administrative Cost Statements

SPCs are required to publish balance sheets and income statements using the accounting standards of private sector firms beginning with the fiscal 2000 (which ended March 2001). The opportunity cost of government funds used as capital for the agency also is calculated. Adding that to the loss shown on the income statement yields the "administrative cost statement" (*gyosei cost keisansho*). (The importance of including the opportunity cost of government funds was first pointed out by Fukao 1998.)

The statements are supposed to be free from the accounting problems identified in earlier sections. For example, the Fiscal System Council's guideline requires SPCs to adjust depreciable assets for depreciation. They also require government financial institutions (but not SPCs) to disclose non-performing loans using the same criteria as private sector financial institutions.

Although the reform was launched on 1 April 2001, implementation is planned to be gradual and many "transitional measures" are provided. For example, postal savings and the pension reserves are committed to buy a substantial amount of FILP bonds until the market for the bonds fully

develops. Moreover, the postal savings and the postal life insurance fund plan to buy bonds directly from local governments, because most local governments would have trouble floating bonds in the market. Thus, the "discretion" that the postal savings and other funds are supposed to enjoy is seriously limited during the "transition" period.

10.3 Actual Substantive Change is Not Assured

A comparison of the old and new systems reveals the possibility that, the government's claim that the reform is "fundamental" notwithstanding, the new system may in practice not differ substantially from the old after all. It is possible for the new system to replicate the financial flows of the old system even after the "transitional measures" expire. For example, postal savings may continue to buy FILP bonds, and FILP agencies may continue to borrow from the FLF. Then, although the name of the intermediary is different, the flow of funds would be exactly the same as under the old system. Moreover, local governments will not be required to issue bonds in the financial market and can continue to depend on the FLF.[3]

The introduction of FILP agency bonds, which are supposed to be without government guarantees, may not change the situation much, either. The market may continue to believe FILP agency bonds are implicitly guaranteed by the government. Wallison (2001) makes an interesting comparison between FILP agency bonds and bonds issued by government-sponsored enterprises (GSEs), such as Federal National Mortgage Association (Fannie Mae) in the United States. He points out that even though US legislation explicitly states that Fannie Mae securities are not government guaranteed, yields on its securities are only slightly higher than on US Treasury bonds. Thus, he is skeptical of the idea of market discipline from FILP agency bonds.

11 Effects of Reform

Reform does not change losses that the FILP has already sustained, but it may prevent FILP agencies from accumulating further losses. After the reform, public corporations are supposed to raise funds

[3] Several local governments – including Tokyo Metropolitan and Osaka City – were issuing bonds in the financial market before the reform. The amount of outstanding local bonds so issued is, however, a little less than 10% of total local bonds outstanding. In the first year since the reform, the issuance amount has hardly changed.

from the financial market. The postal savings and pension reserve funds, which used to fund them automatically through the TFB now can invest in the financial market, without necessarily buying the FILP bonds or FILP agency bonds.

The changes are intended to expose public corporations to market monitoring. A loss-accumulating corporation may have difficulty raising funds and may be forced to restructure its operation. Or, the central government may be forced to subsidize a corporation explicitly so that it can continue its loss-making but socially beneficial activities.

Writing 14 months from the start of the reform, we can examine some early data to see whether the reform looks promising.

First, we look at how uses of postal savings funds and the sources of funds used by FILP agencies have changed. Second, we study the secondary market pricing of the limited number of FILP agency bonds being traded.

11.1 Flow of Funds

Financial flows in the FILP need to change substantially to make FILP agencies subject to the market discipline. However, the reform may not necessarily change the flow of funds: if the postal savings system chooses to buy FILP agency bonds, FILP bonds, and local government bonds, flows in the reformed FILP will replicate those of the old FILP.

Table 10 shows planned uses of postal savings funds for the first two years after the FILP reform (fiscal 2001 and 2002). There are no substantial changes: the majority of available funds are to be invested in the FILP and most of the rest is to be invested much as it was by the TFB. The optimistic interpretation is that the allocation of postal savings so far has been heavily constrained by transitional measures that require postal savings to absorb a substantial amount of FILP bonds.

The sources of funds for FILP agencies also show little change. Table 11 gives the amount of the FILP loans to public corporations in the FILP plans for fiscal 2001 and 2002 and compares those to the size of FILP agency bond issues. The introduction of FILP agency bonds is perhaps the most important aspect of the reform, but they have not become a major source of funds. Although for fiscal 2002 the ratio of bonds to loans is planned to slightly exceed 14%, it will take a long time for the total outstanding amount of bonds to approach the level of loans.

12 The Market's View of Agency Bonds

A key question is whether the market sees these bonds as having implicit government guarantees. If it does, market discipline will be absent, as there is no incentive to monitor and evaluate the agencies. To find the market's view, this section looks at ratings and spreads between agency bonds and JGBs.

12.1 Ratings

Table 12 shows the bond ratings for FILP agencies granted by major rating agencies. Tokyo-based R&I (Rating & Investment Information Inc) has the most extensive coverage of the three major rating agencies, assessing bonds issued by 15 FILP agencies. The Japanese branches of Moody's and Standard & Poors rate far fewer, and add only 2. Thus, 17 FILP agencies are rated by at least one rating agency.

R&I seems to distinguish among FILP agencies, and this suggests it does not see all the bonds as government guaranteed. Three government financial institutions are rated as high as Japanese government bonds (JGBs) were in May 2002. Most of the 14 others were one notch below. Moody's and S&P rank the same 3 agencies on par with JGBs as R&I does. The numbers of FILP agencies that Moody's and S&P rate are so small that it is hard to judge if they are carefully distinguishing between FILP agency bonds issued by different agencies.

12.2 Spreads

By comparing yields on FILP agency bonds to those on JGBs or government-guaranteed bonds (also issued by public corporations), we can see if the market views FILP agency bonds as implicitly guaranteed. As of May 2002, 28 bonds issued by 17 FILP agencies have sufficient secondary-market data.

Figure 4 plots the yields of FILP agency bonds and JGBs against maturities. Agency bonds all are above the yield curve of JGBs, with the premium exceeding 80 basis points for some issues. Thus, the market seems to view FILP agency bonds as significantly more risky than JGBs.

Figure 5 compares FILP agency bonds to government-guaranteed bonds (many issued by the agencies). The market clearly distinguishes FILP agency bonds from government-guaranteed bonds issued by the same agencies.

Looking at the yield spreads between the 28 bonds and comparable JGBs shows substantial differences from one agency to another. The spreads for bonds issued by JBIC and Development

Bank of Japan, which are healthier than the other agencies in our analysis and are rated the same as JGBs by all three rating agencies, have been relatively small (11 to 14 basis points). Agencies with high estimated financial losses, tend to have high spreads (68 to 82 basis points). At 30 May 2002, Urban Development Corp, lowest-rated of the agencies reviewed by R&I and de facto insolvent based on our accounting, had a spread of 77.7 basis points. The widest spread was 81.8 basis points for an unrated issue of Japan Regional Development Corp, although it is solvent even after accounting adjustments.[4]

The gap between low-spread agencies and high spread agencies seems to have widened after April 2002. This may suggest that the financial market for FILP agency bond is getting better at discriminating between bonds issued by different agencies.

Although the FILP reform talked about using FILP agency bonds as a device to apply market discipline on public corporations, it is not clear how that will work in the extreme. There is no transparent mechanism to deal with failures of public corporations and defaults of FILP agency bonds. Indeed, there is no legal procedure for closing a poorly performing public corporation.

Thus, although our review suggests an emergence of market signals on the quality of specific FILP agency bonds, it is not clear how useful this will be in improving the allocation of funds.

13 Conclusions

This chapter has examined the financial cost that the Fiscal Investment and Loan Program has imposed on taxpayers by studying the financial condition of recipients of FILP loans: mainly public corporations and local governments. Many FILP recipients are de facto insolvent. Of the ¥357 trillion of the net FILP funds, about ¥267 trillion is loaned to insolvent recipients. The cost to taxpayers to clean up the expected FILP loss is estimated to be at least ¥75 trillion, over 15% of 2001 GDP.

Together with the massive cost of cleaning up the financial sector (chapter ¿ by Fukao) and the increasing burden of the social security system (chapter ¿ by Dekle), the losses in the FILP constitute a serious impediment to recovery of the Japanese economy. To the extent that funds have been misallocated to projects with low returns or that losses have resulted from inefficient use of

[4] Supplemental Table 5 provides data on the spreads of each issue. It is available on our web sites, listed at the end of the references. The Japan Securities Dealers Assoc, our original source, posts secondary market quotes (in Japanese) on its web site: www.jsda.or.jp.

funds, this chapter provides evidence that the FILP has hurt economic growth, at least since the late 1990s.

Regarding the FILP reforms introduced in April 2001, we found the pattern of financial flows in the FILP has hardly changed. Some good news is that the financial market distinguishes FILP agency bonds from government-guaranteed bonds, which is essential if the use of FILP agency bonds is to introduce market discipline on their issuers. It is too early to tell, however, whether the bonds will be an effective disciplinary device.

13.1 Other Issues

There are four major issues about the FILP and its future that this chapter did not examine thoroughly. These are left for future research.

First, nothing is said about the welfare aspects of the FILP. If foregone opportunities from resource misallocation are taken into account, the welfare cost of the FILP might turn out to be even larger than our estimate of financial losses suggests. On the other hand, some loss-making agencies may be providing welfare-enhancing services that offset the financial losses. Examining welfare aspects of the FILP is an important future research topic.

Second, we relied on estimates of "policy cost" published by each FILP agency. As Kikkawa et al (2000) show, for several FILP agencies, this most likely understates the true magnitude of the cost. Studies to improve the estimates of future losses are needed.

Third, empirical analysis of the new FILP is limited by the amount of data, because the new regime started just 14 months ago. It is important to continue monitoring changes in the pattern of financial flows and development of the market for FILP agency bonds.

Finally, the lack of a clear mechanism to close down poorly performing public corporations is an important shortcoming of the 2001 FILP reform. Such a mechanism is a necessary condition for disciplining through FILP agency bonds. Absent a strong government commitment not to bail out public corporations, and a credible mechanism to prevent bail-outs, market discipline will not develop (see Iwamoto 1998b).

Such a mechanism is also necessary to deal with the losses that have already been incurred by the FILP. It is important to recognize the losses as soon as possible and to decide on the loss-sharing mechanism. Without a clear loss-sharing mechanism, negotiations between stakeholders will lead to delay. Delay increases the losses. Serious research on efficient closure rules for non-performing FILP agencies is an urgent task.

Appendix: Literature Review

Good descriptions of the FILP and the postal savings system in English are Cargill and Yoshino (2000, 2001). Bayoumi (1998) is a nice introduction to the FILP and the Japanese fiscal system in general.

FILP Report, an annual publication available on the Ministry of Finance's web site (www.mof.go.jp/english), is an official guide to the FILP. The description is often self-congratulatory, but it provides basic information.

Kikkawa, Sakai, and Miyagawa (2000) examines the financial health of selected FILP agencies. Their study focuses on the future expected cash flows of the agencies. They estimate the present value of the future losses (negative cash flows) of FILP agencies to be much higher than the estimates published by the MOF. In this chapter, we do not estimate future cash flows for each agency. Instead, we use the MOF estimates. The results in Kikkawa suggest that our estimates of total losses are most likely the lower bound of the true amount.

Wallison (2001) discusses the FILP reform of 2001 and argues that the attempt to rely on the market to discipline FILP agencies without privatizing them is likely to fail. Iwamoto (2002) argues that the reform has failed to force the government to re-evaluate the role of SPCs and to close down the ones that have ceased to be useful.

In Japanese, a comprehensive survey of the huge body of research is provided by Iwamoto (2001). Most of it examines government financial institutions in the FILP, such as the Japan Development Bank and the Government Housing Loan Corporation.

Matsuura (1990), Kono (1993), and Fukao (1998) are among several papers that seek to provide a comprehensive picture on how the FILP works. They carefully disentangle the complex flow of funds and subsidies among the central government, public corporations, and local governments in the FILP.

The work most closely related to this essay are Iwata (1998a) and Doi and Mori (2002). Iwata finds serious under-capitalization, a substantial amount of bad loans, and significant under-reporting of depreciation for selected FILP agencies. Doi and Mori find similar problems for a wider set of FILP agencies. This essay complements their analyses by using more recent data. Most importantly, we use the financial statements of public corporations based on private-sector accounting standards, which were first published 2001. The problems Iwata, and Doi and Mori identified are still found even with supposedly better accounting.

Yoshida and Konishi (1996) was the first comprehensive analysis of the financial condition of the FILP agencies. Perhaps hindered by incomplete disclosure and improper accounting, they failed to recognize the serious financial problem hidden in the FILP. It is also possible that the magnitude of the problem was smaller then. In any case, using more recent data, we find much a larger problem than they did.

Higo (2001) provides a very useful description of the FILP reform of April 2001.

Noguchi and Sasaki (1999) examined yield spreads between government-guaranteeed bonds and a few non-government-guaranteed bonds issued by FILP agencies before the 2001 FILP reform. They found the spreads were at most 15 basis points, suggesting the financial markets considered the bonds implicitly government-guaranteed. We find more substantial spreads between FILP agency bonds and government-guaranteed bonds since the FILP reform.

We go beyond a descriptive analysis of the reform and try to examine its impact empirically. This chapter also examines the financial health of local governments, something the works cited generally pay little, if any, attention to.

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Our web sites for further data are:
www.econ.keio.ac.jp/staff/tdoi
www.irps.ucsd.edu/faculty/thoshi

Table 1

Sources of FILP Funds, March 2001

(billion yen and percents)

Line	Amount	Share	Source
—	439,663	83.1	Trust Fund Bureau Fund
4	61,658	11.6	Postal Life Insurance Fund
5	3,383	0.6	Industrial Investment Special Account
6	24,579	4.6	Government-guaranteed Bonds
	529,283	100	Total

Components of the Trust Fund Bureau (TFB) Fund

	Amount	Share of total	Share within TFB	
1	247,008	46.7	56.7	Postal Savings
2	142,593	26.9	32.4	Pension Reserves
3	50,062	9.5	11.4	Others[1]

Line numbers refer to Figure 1.
1 Includes postal life insurance premiums collected during the fiscal year (which are deposited into the TFB) and short-term deposits by some special accounts, as well as profits and reserves at the TFB.

Source: Ministry of Finance (2001). FILP Report 2001.

Table 2

Uses of FILP Funds, March 2001

(billion yen and percents)

Line	Amount	Share	Use
10	7,279	1.4	General account (JNR loans)[1]
11	57,350	10.8	Postal Savings Special Account[2]
12	6,298	1.2	Other special accounts
13	259,617	49.0	FILP agencies[3]
14	87,270	16.5	Local government
–	417,814	78.9	FILP Plan total
15	72,682	13.7	Central government bonds[4]
–	38,787	7.3	Other[5]
	529,283	100	Total uses
	471,993	–	Total excluding Postal Savings SA

Line numbers refer to Figure 1.
1 TFB loans to the former Japan National Railroad (JNR) and former JNR Settlement Corp (JNRSC), which the government assumed (see Box 1). Unlike other loans to the general account, these are included in the formal FILP Plan.
2 Funds the TFB has loaned back to the postal savings system for it to invest directly. These are excluded from the net total.
3 Includes ¥3,352 in contributed capital and ¥256,265 in loans.
4 Including JNR loans (note 1) the central government total is ¥79,961 billion.
5 Includes short-term loans (mainly to the Special Account for Grants of Allocation Tax and Transfer Taxes [to local governments]) and certain financial investments with a maturity of less than 5 years.

Data Source: FILP Report 2001.

Table 3

FILP Loans and Bond Guarantees, 31 March 2001

(billion yen)

# of recipients[1]	Amount	Originating lending source
47	270,844	Trust Fund Bureau[2]
32	61,658	Postal Life Insurance
3	31	Industrial Investment SA
51	332,533	Net total FILP loans[2]
24	24,579	Government-guaranteed bonds
57	357,112	Total
1	57,350	Postal Savings SA loans
58	414,462	Total FILP funds[3]

1 Number of recipients, counting local governments (which have TFB and PLI loans) as 1. Not counting local governments and the Postal Savings SA (note 2), there are 50 recipients of FILP loans and an additional 6 have bond guarantees but no loans.
2 Excludes funds the TFB has loaned back to the postal savings system for it to invest directly. With them, loans from the TFB total ¥328,194 and total loans are ¥389,883.
3 Adding ¥3,352 in capital contributions to this yields the ¥417,814 FILP Plan total in Table 2.

Source: This table is the column totals of Supplemental Table 1, which provides data (from FILP Report 2001) on each of the 58 recipients. It is available on our web sites, listed at the end of the references.

Table 4

Distribution of FILP Plan by Target Area, Fiscal 2001

(percents)

29.9	Housing
19.9	Living environment
16.1	Small and medium businesses
11.2	Road construction
4.8	Trade and economic cooperation
3.9	Social welfare
3.4	Regional development
2.8	Education
2.4	Agriculture[1]
2.3	National land preservation[2]
2.3	Transport and communication
1.0	Industry and technology

The FILP plan total for the year was ¥32.5 trillion.

1 Includes forestry and fisheries.
2 Includes reconstruction in the event of disaster.

Cargill and Yoshino (2000, Table 8.3) show the uses of FILP funds by target areas from 1955 to 1998.

Table 5

Disclosed Bad Loans of FILP Agencies, 31 March 2001

(billion yen and percents)

Bad Loans: yen[1]	Bad Loans: % of all loans[2]	Loan Loss Reserve: in yen	Loan Loss Reserve: as % of bad loans[3]	Name or type of agency and number of agencies[4]
1398	1.8	41	2.9	Government Housing Loan Corp
3148	5.0	1629	51.8	Other gov't financial institutions (6)
519	2.3	354	41.6	SPCs (18)
534	4.9	465	87.0	Shoko Chukin Bank
5599	3.2	2489	44.5	Total for all agencies
5441	3.2	2262	41.6	Total for under-reserved agencies (21)

The absolute amount of under-reserving for each agency is included in Appendix Table 1. Total under-reserving (the difference between bad loans in column 1 and reserves in column 3) is ¥3179 for under-reserved agencies. Including JFM (see Box 2), the total is ¥8251.

1 For government financial institutions and Shoko Chukin Bank, entries are for risk-management loans. SPCs are allowed to use a less strict definition. For them, the figures show amounts of loans past-due 6 months or more or loans to bankrupt entities that they report with their balance sheets.

2 Bad loans as a percentage of total loans made.

3 An entry under 100% means the agency is under-reserved.

4 Only agencies that disclose non-performing loans are included.

Source: Summarized from Supplemental Table 3, which provides data specific to each agency. It is available on our web sites, listed at the end of the references.

Table 6

Total Financial Losses of FILP Agencies with Losses, 31 Mar 2001

(billion yen)

Number of agencies with each type of loss	Amount of loss	Source of loss
22	8,251	Under-reserving of bad loans
11	11,357	Over-valuing of assets
28	11,657	Policy costs
3	-228	Policy gains offsetting other losses
34	31,037	Total

Source: Appendix Table 1, which gives data by agency.

Note: The total amount (¥31.0 trillion) is about 6% of GDP.

Table 7

Expected Insolvency of Local Governments, 31 Mar 2001

(billion yen)

Source of Funds:			Borrower, by type:			
JFM[1]	FILP	Total[2]	Prefect-ures	Cities & wards	Towns & villages	
-	-	-	47	693	2557	Number
8,246.4	54,999.5	-	-	-	-	Total loaned
-	-	124,760.7	72,326.3	41,831.4	10,603.0	Total debt[2]
Loans to Insolvent Entities[3]						Scenario
6,160.4	[a]*42,331.1*	105,775.5	69,546.4	29,767.3	6,461.8	1
1,443.6	10,964.1	30,150.5	25,622.9	3,665.3	862.2	2
5,207.6	36,199.1	94,659.8	66,656.9	23,244.4	4,758.5	3
5,803.0	39,553.1	85,463.4	52,475.8	22,737.7	10,249.9	4
4,389.8	31,785.9	64,891.2	46,115.2	9,135.7	9,640.2	5
5,718.6	39,171.5	84,762.0	52,475.8	22,158.7	10,127.4	6
Expected Default[4]						
5,072.5	[b]*35,201.8*	89,517.4	61,862.5	22,633.4	5,021.5	1
462.7	3,494.4	9,374.4	5,943.1	2,929.2	502.1	2
4,397.3	30,317.1	76,342.5	53,983.2	18,316.4	4,042.8	3
5,679.1	38,925.9	84,282.2	52,475.8	21,558.1	10,248.2	4
4,263.1	31,178.8	63,617.2	46,089.4	7,931.4	9,596.3	5
5,582.8	38,384.2	83,118.6	52,475.8	20,472.1	10,170.7	6

The scenarios are explained in the text. The analysis excludes local public enterprises because of a lack of data. These enterprises have losses, so the estimates here are lower bounds.

1 JFM is the Japan Finance Corporation for Municipal Enterprises.

2 Total debt outstanding, defined as "local bonds" plus "contract-authorized liabilities" minus "reserve" minus "net excess of revenue" at the end of fiscal 2000.

3 Sum of the debts of insolvent local governments, where insolvency is defined as debts exceeding debt capacity. Debt capacity is the present discounted value of the expected level of primary surplus, as explained in the text. A 4% discount rate is assumed.

4 Sum of the differences between total debts and debt capacities under each scenario. The seniority of FILP and JFM loans are assumed to be the same as other liabilities.

a Value for Loans to Insolvent Entities used in Table 8.

b Value for Expected Default used in Table 9.

Source: Authors' calculations.

Table 8

Bad Loans in the FILP, 31 March 2001

(trillion yen)

Amount	Borrower
7.3	JNR-related debt (Box 1)
217.0	Insolvent agencies[1]
42.3	Insolvent local governments (Table 7)
266.6	Total

1 Insolvent agencies (that is, agencies with negative net capital) are listed in Appendix Table 1. Their debt is included with their entries in Supplemental Table 1, which is available on our web sites, listed at the end of the references.

Table 9

Expected Cost to Taxpayers, 31 March 2001

(trillion yen)

Amount	Source
7.3	JNR-related debt (Box 1)
35.8	Cost to restore capital of FILP agencies (Appendix Table 2), composed of:
	12.4 Lost original capital
	23.5 Cumlative operating losses in excess of original capital
35.2	Expected default of local government debt (Table 7)
78.3	Total

Note: The cost to restore capital of FILP agencies (¥35.8 trillion) in this table differs from the total financial losses reported in Table 6 (¥31.0 trillion) because the figure in this table includes the losses that are already reported on the agencies' original balance sheets even before we estimate the additional losses in Table 6.

Table 10

Sources and Uses of New Postal Savings Funds

(in billion yen)

2001[a]	2002[b]	
		Sources of Funds:
32,297	23,723	Matured TFB deposits
8,223	15,393	Other[1]
-16,019	-3,848	Reduction in deposits[2]
24,501	35,267	*Total*
		Uses of Funds:
15,800	13,600	FILP bonds
1,200	7,950	Other JGB[3]
450	450	Public corporation bonds
550	550	Local government bonds
1,000	980	Local government loans
934	713	Loans to depositors
400	400	Corporate bonds
50	50	Foreign bonds
750	2,350	Money trust[4]
3,367	8,224	Short-term securities

1 Income from the investments made by postal savings on its own account.
2 Expected net withdrawls by depositors in the postal savings system.
3 Japanese government bonds.
4 This relates to the Postal Life Insurance Welfare Corp.

a Fiscal year ending 2002 March 31.
b Fiscal year ending 2003 March 31.

Source: www.yusei.go.jp/pressrelease/japanese/kawase/001224j301.html. Posted 24 Dec 2000, in Japanese. *Heisei 13 / Heisei 14 nendo ni okeru Yubin Chokin Shikin Unyo Keikaku* (Postal Savings Fund Investment Plan for Fiscal 2001 / 2002).

Table 11

Use of FILP Agency Bonds

(in billion yen and percent)

2001[a]	2002[b]	
22,759	1,749	New FILP loans[1]
1,006	2,487	New issues of FILP agency bonds
4.4%	14.3%	Agency bonds as % of loans

1 Does not includes loans to the central government or to local governments.
a Fiscal year ending 2002 March 31.
b Fiscal year ending 2003 March 31.

Source: *Heisei 14 nendo Zaisei Toyushi Keikaku* (Fiscal 2002 FILP Plan) available at www.mof.go.jp/seifuan14/zt004.pdf.

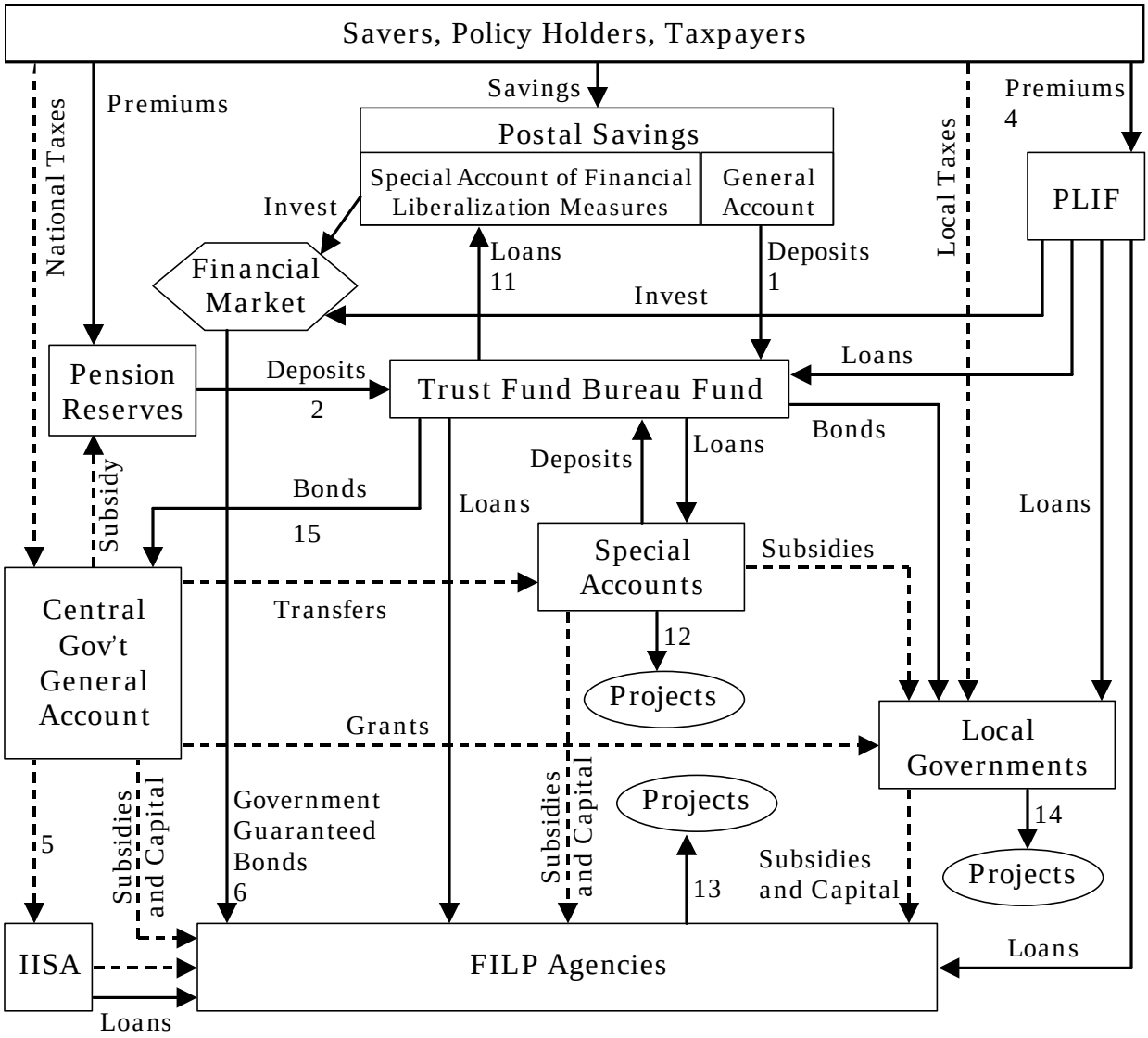
Table 12

Ratings of FILP Agency Bonds (May 2002)

S&P	Moody	R&I	Agency
AA-	Aa1	AAA	Japanese government bonds (JGB)
AA-	Aa1	AAA	Japan Finance Corp for Municipal Enterprises
AA-	Aa1	AAA	Development Bank of Japan
AA-	Aa1	AAA	Japan Bank for International Cooperation
A+	Aa1	-	Japan Highway Public Corp
	Aa3	-	Hanshin Expressway Public Corp
		AA+	Japan Finance Corp for Small Business
		AA+	National Life Finance Corp
		AA	Agriculture, Forestry & Fisheries Finance Corp
		AA	Japan Railway Construction Public Corp
		AA	Metropolitan Expressway Public Corp
		AA	Promotion & Mutual Aid Corp for Private Schools
		AA	Social Welfare & Medical Service Corp
		AA	Water Resources Development Public Corp
		AA-	Corp for Advanced Transport & Technology
		AA-	Japan Scholarship Foundation
		AA-	New Tokyo International Airport Authority
		A+	Urban Development Corp

Sources: Moody's Japan (www.moodys.co.jp), Standard & Poor's (www.standardpoors.com/japan), Rating & Investment Information (R&I) (www.r-i.co.jp).

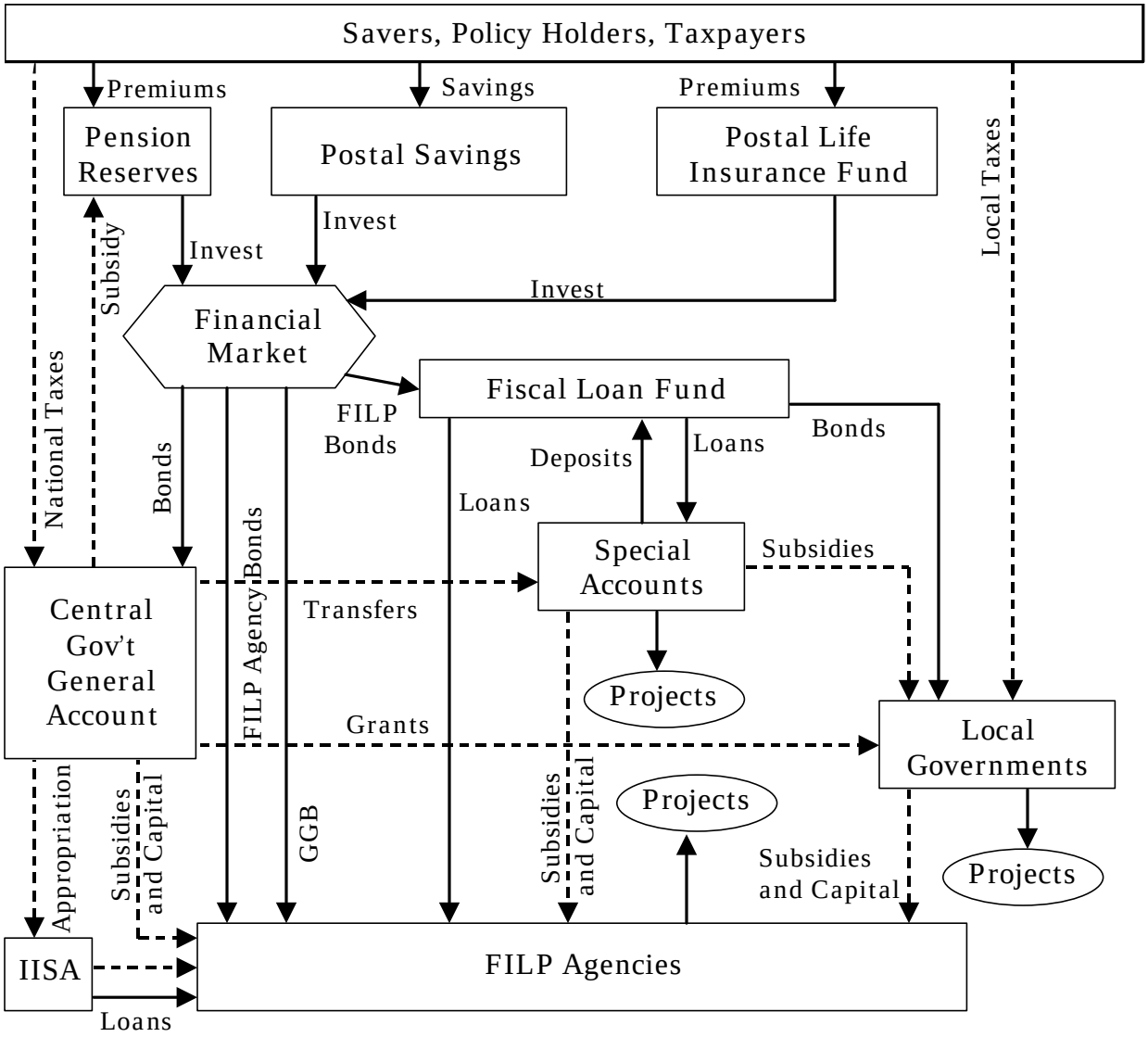
Figure 1. Structure of the FILP Before April 2001



IISA Industrial Investment Special Account
PLIF Postal Life Insurance Fund

A box represents a sector or an institution involved in the FILP. The arrows indicate the direction of the movement of funds, with solid lines indicating financial transactions and broken lines being fiscal transfers. Numbers next to the lines refer to entries in Tables 1 and 2, which provide the yen amounts represented by the lines.

Figure 2. Structure of the New FILP After April 2001



IISA Industrial Investment Special Account

A box represents a sector or an institution involved in the FILP.The arrows indicate the direction of the movement of funds, with solid lines indicating financial transactions and broken lines being fiscal transfers. The postal savings and the postal life insurance fund plan to buy bonds directly from local governments, because most of the local governments would have trouble floating their bonds in the market. The purchases of local bonds are not included in this figure.

Figure 3. Yields on FILP Agency Bonds and JGBs (%, May 30, 2002)

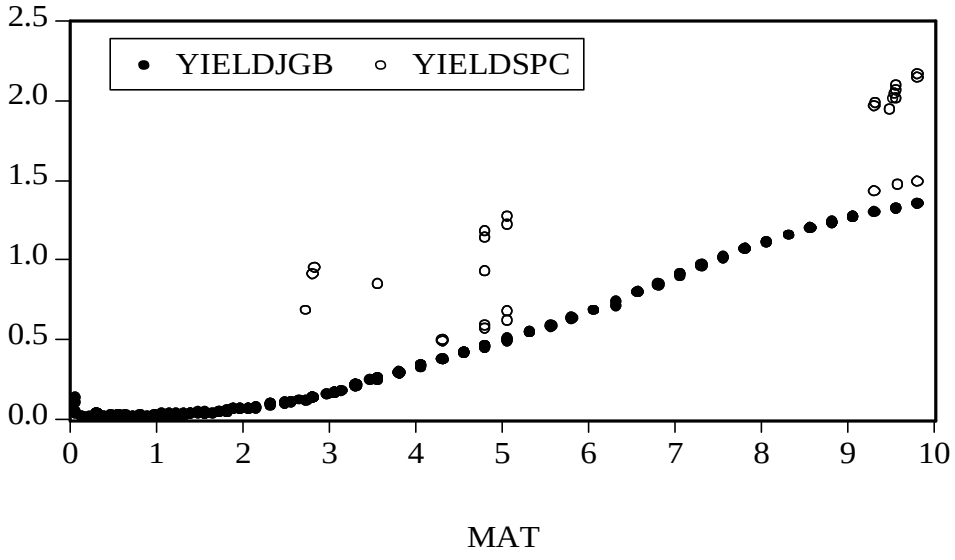
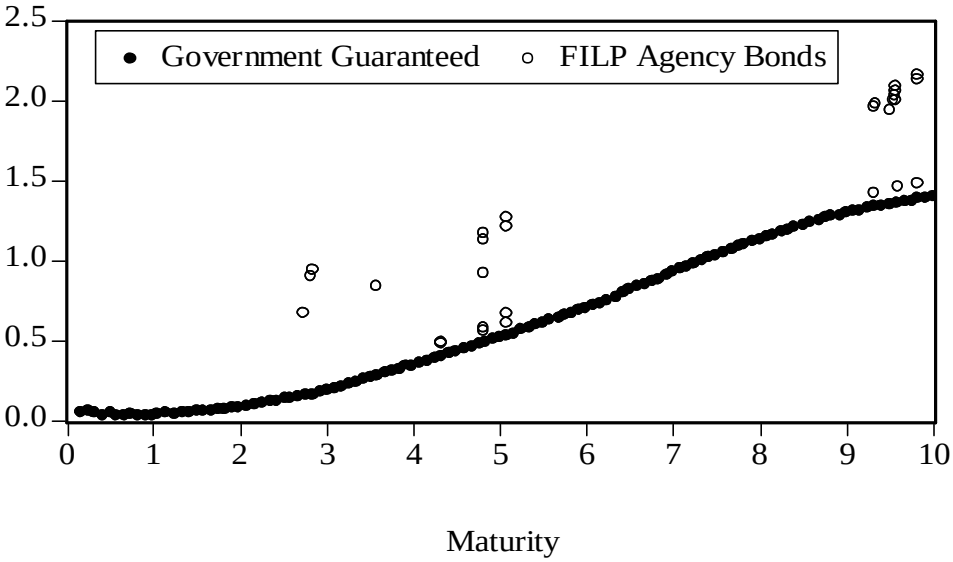


Figure 4. Yields of FILP Agency Bonds and Government Guaranteed Public Corporation Bonds (%, May 30, 2002)



Appendix Table 1
Total Financial losses of the FILP and Net Capital of FILP Agencies, 31 March 2001
(billion yen)

Losses resulting from: Under-Reserved Loans[1]	Over-Valued Assets[2]	Policy Costs[3]	Total Losses[4]	Gross Capital[5]	Net Capital[6]	Agency
						Government Financial Institutions
1356.7	-	-154.9	1201.8	-188.8	-1390.6	Government Housing Loan Corp
500.9	-	43.6	544.5	-180.1	-724.6	National Life Finance Corp
179.3	-	88.7	268.0	155.2	-112.8	Japan Finance Corp for Small Business
149.5	-	499.0	648.5	244.8	-403.7	Agriculture Forestry & Fisheries Finance Corp
5072.5	-	9.3	5081.8	1324.7	-3757.1	Japan Finance Corp for Municipal Enterprises
134.5	-	5.0	139.5	49.3	-90.2	Okinawa Development Finance Corp
273.3	-	128.2	401.5	1616.2	1214.7	Development Bank of Japan
281.2	-	723.1	1004.3	7338.2	6333.9	Japan Bank for International Cooperation
						Special Public Corporations
40.3	1199.4	1234.2	2473.9	417.4	-2056.5	Urban Development Corp
29.6	-	325.7	355.3	-819.8	-1175.1	Pension Welfare Service Public Corp
10.1	-	-	10.1	1508.9	1498.8	Employment & Human Resources Development Org
0.0	165.2	36.5	201.7	-15.8	-217.5	Japan Environment Corp
-	43.1	-10.7	32.4	107.7	75.3	Teito Rapid Transit Authority
5.3	-	78.7	84.0	134.8	50.8	Japan Regional Development Corp
-	37.0	74.7	111.7	-7.4	-119.1	Japan Sewage Works Agency
16.2	-	69.6	85.8	297.8	212.0	Social Welfare & Medical Service Corp
5.4	-	4.9	10.3	3315.2	3304.9	Promotion & Mutual Aid Corp. for Private Schools of Japan
9.7	-	104.9	114.6	-77.8	-192.4	Japan Scholarship Foundation
0.1	-	1374.3	1374.4	686.1	-688.3	Japan Green Resources Corp
4.7	-	-	4.7	107.4	102.7	Japan Intl Cooperation Agency
-	4445.1	3461.5	7906.6	6109.1	-1797.5	Japan Highway Public Corp
-	1107.2	371.2	1478.4	994.8	-483.6	Metropolitan Expressway Public Corp

-	475.6	270.9	746.5	187.1	-559.4	Hanshin Expressway Public Corp
-	648.4	630.6	1279.0	-623.0	-1902.0	Honshu-Shikoku Bridge Authority
0.0	2553.4	2.0	2555.4	-645.8	-3201.2	Japan Railway Construction Public Corp
-	218.6	-62.0	156.6	282.9	126.3	New Tokyo International Airport Authority
6.7	-	3.3	10.0	962.8	952.8	Corp for Advanced Transport & Technology
-	464.0	235.4	699.4	42.3	-657.1	Water Resources Development Public Corp
4.2	-	-	4.2	10.9	6.7	Fund for Promotion and Development of Amami Isles
1.5	-	0.6	2.1	25.5	23.4	Metal Mining Agency of Japan
100.2	-	1824.2	1924.4	1474.9	-449.5	Japan National Oil Corp
-	-	-	-	-3489.0	-3489.0	Postal Life Insurance Welfare Corp
						Special Firms
69.3	-	53.2	122.5	608.5	486.0	Shoko Chukin Bank
-	-	2.2	2.2	419.1	416.9	Kansai International Airport Co Ltd
-	-	1.3	1.3	26.3	25.0	Org for Promoting Urban Development
8,251.3	11,357.0	11,429.2[a]	31,037.4	-	-	Total
-	-	-	-	-6,047.5	-23,467.2	Total for negative capital

1 Under-reserved bad loans are from Supplemental Table 3, column 1 minus column 3. An entry of 0.0 means the agency's non-performing loans were found by our analysis to be fully reserved.
2 Over-valued assets are from Supplemental Table 4, column 2 minus column 3.
3 Policy costs numbers are found in *FILP Report 2001 Extension Volume: Policy cost Analysis of FILP Projects FY2001* and at www.mof.go.jp/english/zaito/zaito2001e-exv/exv-index.htm.
4 Total losses are the sum of the first 3 columns.
5 Gross capital is from the agency's Administrative Cost Statement where available, otherwise from its original balance sheet. These are reported on Supplemental Table 2.
6 Net capital is gross capital minus total losses.
a Composed of ¥11,656.8 in policy costs from 28 agencies and ¥227.6 in policy benefits from 3 agencies.
Five special accounts and one special firm do not publish balance sheets regularly, so they are excluded from our analysis. These are noted on Supplemental Table 1

Supplemental Tables are available on our web sites, listed at the end of the references.

Appendix Table 2
Government Capital and Public Funds Already Lost, 31 March 2001
(billion yen and percents)

Government capital		Public loss of:				
%[1]	Yen[2]	Original capital[3]		Other[4]	Total	Agency
						Government Financial Institutions
100	166.2	166.2	*	1390.6	1578.8	Government Housing Loan Corp
100	321.9	321.9	*	724.6	1046.5	National Life Finance Corp
100	410.9	410.9	*	112.8	523.7	Japan Finance Corp for Small Business
100	311.1	311.1	*	403.7	714.8	Agriculture Forestry & Fisheries Finance Corp
100	16.6	16.6	*	3757.1	3773.7	Japan Finance Corp for Municipal Enterprises
100	63.2	63.2	*	90.2	153.4	Okinawa Development Finance Corp
100	1039.4	0		0	0	Development Bank of Japan
100	6986.2	652.3		0	652.3	Japan Bank for International Cooperation
						Special Public Corporations
99.3	683.0	683.0	*	2056.5	2739.5	Urban Development Corp
100	1075.4	1075.4	*	1175.1	2250.5	Pension Welfare Service Public Corp
100	2118.4	620.2		0	620.2	Employment & Human Resources Development Org
78.8	15.6	15.6	*	217.5	233.1	Japan Environment Corp
53.4	31.0	0		0	0	Teito Rapid Transit Authority
100	135.8	85.0		0	85.0	Japan Regional Development Corp
55.4	1.5	1.5	*	119.1	120.6	Japan Sewage Works Agency
100	292.6	80.6		0	80.6	Social Welfare & Medical Service Corp
100	723.1	371.9		0	371.9	Labor Welfare Corp
95.4	51.5	30.9		0	30.9	Org for Pharmaceutical Safety & Research
100	48.7	0		0	0	Promotion & Mutual Aid Corp. for Private Schools of Japan
100	3.7	3.7	*	192.4	196.1	Japan Scholarship Foundation
99.9	1257.7	110.2		0	110.2	Japan Small & Medium Enterprise Corp
100	675.9	675.9	*	688.3	1364.2	Japan Green Resources Corp
100	132.6	29.9		0	29.9	Japan Intl Cooperation Agency

92.8	70.3	49.6		0	49.6	Bio-oriented Technology Research Advancement Inst
100	1980.1	1980.1	*	1797.5	3777.6	Japan Highway Public Corp
50	298.5	298.5	*	483.6	782.1	Metropolitan Expressway Public Corp
50	235.1	235.1	*	559.4	794.5	Hanshin Expressway Public Corp
67.5	516.9	516.9	*	1902.0	2418.9	Honshu-Shikoku Bridge Authority
99.5	64.2	64.2	*	3201.2	3265.4	Japan Railway Construction Public Corp
100	284.7	158.4		0	158.4	New Tokyo International Airport Authority
88.1	20.8	0		0	0	Corp for Advanced Transport & Technology
99.1	382.5	217.9		0	217.9	Telecommunications Advancement Org of Japan
100	2.4	2.4	*	657.1	659.5	Water Resources Development Public Corp
63.1	7.2	3.0		0	3.0	Fund for Promotion & Development of the Amami Isles
100	23.7	0.3		0	0.3	Metal Mining Agency of Japan
84.9	1636.8	1636.8	*	449.5	2086.3	Japan National Oil Corp
99.98	548.3	384.7		0	384.7	Japan Science & Technology Corp
96.9	319.9	265.9		0	265.9	Information-Technology Promotion Agency
94.5	305.6	252.2		0	252.2	Japan Key Technology Center
56.7	57.6	1.0		0	1.0	Industrial Structure Improvement Fund
72.4	9.5	0.2		0	0.2	New Energy & Industrial Technology Development
100	442.2	442.2	*	3489.0	3931.2	Postal Life Insurance Welfare Corp
						Special Firms
79.8	394.1	6.3		0	6.3	Shoko Chukin Bank
66.7	394.7	116.6		0	116.6	Kansai International Airport Co Ltd
		12,380.4		23,467.2	35,847.6	Totals

Not all institutions with government capital contributions are FILP agencies. This table covers only FILP agencies.

1 Government's percentage share of paid-in (contributed) capital.

2 Amount of government contribution on the agency's balance sheet. This includes any contributions through the Industrial Investment Special Account (IISA), which are included in the formal FILP plan, as well contributions directly from the general account and from other special accounts, which are not included in the FILP plan.

3 Government's loss of its original capital. If net capital (Appendix Table 1 column 6) is negative (as is the case for 20 agencies), all the government contribution to the corporation is considered lost. These cases are indicated by an *.

If net capital is positive but smaller than the government contribution (as is the case for 20 agencies), the net loss is the government's share of net capital minus its contribution (column 4). The government's share of net capital is column 1 (as a decimal) times Appendix Table 1 column 6. In 7 cases, the government did not provide 100% of capital.

4 Government's share of losses that exceed its original capital contribution. The assumption is that all loans to insolvent FILP recipients eventually will be taken over by the government (as has already happened for the former JNR), while non-governmental contributors of capital will lose no more than their original capital.

For insolvent corporations (marked with *), the additional loss is the amount of negative net capital from Appendix Table 1 column 6. For solvent corporations, it is the amount by which the government's share of net capital is less than its contribution (column 4). The government's share of net capital is column 1 (as a decimal) times Appendix Table 1 column 6.

Supplemental Tables for Takero Doi and Takeo Hoshi “Paying for the FILP”

September 1, 2002

Supplemental Table 1
FILP Loans, Government-Guaranteed Bonds, and Total FILP Funds, 31 March 2001
(billion yen)

TFB Loans	Postal Life Loans	Total FILP Loans	GGB[1]	Total FILP Funds[2]	Borrower and number in category
					Central Government
7,279	0	7,279	0	7,279	General Account (JNR loans)[3]
					Special Accounts (SA) (10):
345	0	345	0	345	SA for National Hospital
671	0	671	0	671	SA for Lending Urban Development Funds
944	0	944	0	944	SA for Consolidation of Specific Natl Property *
1,037	0	1,037	0	1,037	SA for National Schools *
1,067	0	1,067	0	1,067	SA for Government-Operated Land Improvement Projects *
910	0	910	0	910	SA for National Forest Service
14	0	14	0	14	Road Improvement SA *
0	304	304	0	304	Postal Services SA
1,007	0	1,007	0	1,007	SA for Airport Development *
57,350	0	57,350	0	57,350	Postal Savings SA[4]
					Government Financial Institutions (8):
73,348	1,401	74,749	602	75,351	Government Housing Loan Corp
8,071	2,066	10,137	100	10,237	National Life Finance Corp
2,674	2,722	5,397	1740	7,137	Japan Finance Corp for Small Business
3,422	134	3,556	0	3,556	Agriculture, Forestry & Fisheries Finance Corp
0	0	0	16,341	16,341	Japan Finance Corp for Municipal Enterprises
1,412	207	1,618	0	1,618	Okinawa Development Finance Corp
14,064	859	14,923	220	15,143	Development Bank of Japan
12,385	430	12,815	25	12,840	Japan Bank for International Cooperation
					Special Public Corps (SPCs) (27):
11,381	2,708	14,088	704	14,792	Urban Development Corp
35,967	0	35,967	0	35,967	Pension Welfare Service Public Corp
71	25	96	0	96	Employment and Human Resources Development Org
374	18	392	0	392	Japan Environment Corp
287	145	432	0	432	Teito Rapid Transit Authority

293	202	496	1	497	Japan Regional Development Corp
106	9	115	0	115	Japan Sewage Works Agency
2,699	0	2,699	40	2,739	Social Welfare and Medical Service Corp
27	0	27	0	27	Labor Welfare Corp
0	0	[a]2	0	2	Org for Pharmaceutical Safety & Research
202	114	316	0	316	Promotion & Mutual Aid Corp for Private Schools of Japan
661	0	661	0	661	Japan Scholarship Foundation
118	36	154	0	154	Japan Small and Medium Enterprise Corp
475	0	475	0	475	Japan Green Resources Corp
0	0	[a]6	0	6	Bio-oriented Technology Research Advancement Inst
9,437	10,562	20,000	1,665	21,665	Japan Highway Public Corp
1,543	2,326	3,868	208	4,076	Metropolitan Expressway Public Corp
1,340	1,969	3,309	82	3,391	Hanshin Expressway Public Corp
846	1,169	2,016	125	2,141	Honshu-Shikoku Bridge Authority
926	161	1,087	471	1,558	Japan Railway Construction Public Corp
112	230	342	0	342	New Tokyo International Airport Authority
2,925	119	3,044	524	3,568	Corp for Advanced Transport and Technology
1,012	306	1,318	50	1,368	Water Resources Development Public Corp
40	0	40	0	40	Metal Mining Agency of Japan
476	54	530	153	683	Japan National Oil Corp
0	0	[a]23	0	23	Japan Key Technology Center
0	15,472	15,472	0	15,472	Postal Life Insurance Welfare Corp
					Special Firms (11):
311	0	311	0	311	Shoko Chukin Bank
0	0	0	474	474	Trans-Tokyo Bay Highway Corp *
0	0	0	5	5	Japan Airlines Co, Ltd
0	0	0	335	335	Kansai International Airport Co, Ltd
0	0	0	103	103	Central Japan International Airport Co, Ltd
4	11	15	47	62	East Japan Railway Co
5	14	18	0	18	Central Japan Railway Co
4	11	15	0	15	West Japan Railway Co
12	0	12	0	12	Japan Fright Railway Co
0	0	0	14	14	Org for Promoting Urban Development
924	223	1,147	551	1,698	Electric Power Development Co
					Local Governments:
69,618	17,652	87,270	0	87,270	Local Governments

328,194	61,658	[a]389,883	24,579	414,462	Total, gross
270,844	61,658	[a]332,533	24,579	357,112	Total, net[4]

* Do not publish balance sheets regularly, and so are excluded from analysis.

1 GGB are government-guaranteed bonds.
2 Figures here differ from the source because it includes ¥3,352 billion of capital contributed by the government through the IISA. Here only loans are reported; government capital is in Appendix Table 1.
3 TFB loans to the former Japan National Railroad (JNR) and former JNR Settlement Corp (JNRSC), which the government assumed. Unlike other loans to the general account, these are included in the formal FILP Plan.
4 Funds the TFB has loaned back to the postal savings system for it to invest directly. These are excluded from the net total.
a Includes Industrial Investment Special Account (IISA) loans. These total ¥31 billion to 3 FILP agencies.

Sources: FILP Report 2001, p 42-43, and *Zaisei Kin'yu Tokei Geppo* (Ministry of Finance Statistics Monthly), Jul 2001.

Supplemental Table 2
Capital of FILP Agencies, 31 March 2001
(billion yen and percents)

Capital on: Original Balance Sheet[1]	Capital on: Administrative Statement[2]	Capital Ratio (%)[3]	
			Central Government Special Accounts:
1385.5	-	59.4	SA for National Hospital[4]
214.5	-	40.0	SA for Lending Urban Development Funds
7046.2	-	82.4	SA for Consolidation of Specific Natl Property
4497.2	-	51.1	Postal Savings SA[4]
			Government Financial Institutions:
-174.6	-188.8	-0.2	Government Housing Loan Corp[4]
321.9	-180.1	-1.7	National Life Finance Corp
410.9	155.2	2.1	Japan Finance Corp for Small Business
311.1	244.8	6.2	Agriculture, Forestry & Fisheries Finance Corp
16.6	1324.7	5.3	Japan Finance Corp for Municipal Enterprises
64.8	49.3	2.8	Okinawa Development Finance Corp
1977.1	1616.2	8.6	Development Bank of Japan
7773.7	7338.2	31.7	Japan Bank for International Cooperation
			Special Public Corps:
598.4	417.4	2.4	Urban Development Corp
-1044.4	-819.8	-2.3	Pension Welfare Service Public Corp
1597.9	1508.9	63.9	Employment and Human Resources Development Org
19.8	-15.8	-4.0	Japan Environment Corp
107.7	-	8.3	Teito Rapid Transit Authority
147.6	134.8	18.0	Japan Regional Development Corp
-16.0	-7.4	-2.3	Japan Sewage Works Agency
303.4	297.8	9.6	Social Welfare and Medical Service Corp
551.2	351.2	62.3	Labor Welfare Corp
43.7	21.6	60.1	Org for Pharmaceutical Safety & Research
-1540.4	3315.2	79.0	Promotion & Mutual Aid Corp. for Private Schools …[5]
8369.2	-77.8	-3.3	Japan Scholarship Foundation
1162.2	1148.8	11.9	Japan Small and Medium Enterprise Corp
684.9	686.1	44.5	Japan Green Resources Corp
127.5	107.4	64.6	Japan Intl Cooperation Agency
46.5	75.7	69.8	Bio-oriented Technology Research Advancement Inst
2012.9	6109.1	18.2	Japan Highway Public Corp
597.6	994.8	16.9	Metropolitan Expressway Public Corp
470.2	187.1	4.7	Hanshin Expressway Public Corp
-233.5	-623.0	-17.3	Honshu-Shikoku Bridge Authority
233.7	-645.8	-6.3	Japan Railway Construction Public Corp
279.6	282.9	32.2	New Tokyo International Airport Authority
970.2	962.8	12.3	Corp for Advanced Transport and Technology
178.8	166.9	83.9	Telecommunications Advancement Org of Japan
49.3	42.3	0.9	Water Resources Development Public Corp
10.9	10.9	27.7	Fund for Promotion & Development of the Amami Isles
26.9	25.5	34.2	Metal Mining Agency of Japan
1215.2	1474.9	36.6	Japan National Oil Corp

187.5	163.5	82.5	Japan Science & Technology Corp
239.8	55.7	66.0	Information-Technology Promotion Agency
290.1	47.8	66.8	Japan Key Technology Center
105.6	100.0	96.7	Industrial Structure Improvement Fund
282.2	12.8	77.8	New Energy & Industrial Technology Development
397.4	-3489.0	-14.3	Postal Life Insurance Welfare Corp
			Special Firms:
608.5	-	4.2	Shoko Chukin Bank
..	..	..	Trans-Tokyo Bay Highway Corp[6] *
267.7	-	14.9	Japan Airlines Co, Ltd *
419.1	-	26.2	Kansai International Airport Co, Ltd
32.6	-	18.2	Central Japan International Airport Co, Ltd *
952.6	-	13.1	East Japan Railway Co *
634.5	-	10.7	Central Japan Railway Co *
429.8	-	16.7	West Japan Railway Co *
41.8	-	13.5	Japan Fright Railway Co *
26.3	-	1.9	Org for Promoting Urban Development *
130.6	-	5.5	Electric Power Development Co

The government's share of original capital is reported on Appendix Table 2.
* None of the capital contributed directly by the government.
1 Original balance sheets use accounting standards for public corporations.
2 Administrative cost statements use standards for private sector firms.
3 Ratio of capital to total assets reported on the administrative cost statement (or, for corporations that did not file administrative cost statements, the original balance sheet).
4 Capital is adjusted by subtracting cumulative losses that are counted as assets.
5 Promotion and Mutual Aid Corp for Private Schools of Japan. Because the corporation is not supposed to run a profit, on its original balance sheet it has added to reserves for future pension payments what would in the private sector be considered profit. On the administrative cost statement, this reserve (about ¥4.7 trillion) is reclassified as capital.
6 Data are not available.

Sources: *Zaisei Kin'yu Tokei Geppo* (Ministry of Finance Statistics Monthly), Jul 2001 and the administrative costs statements of each agency.

Supplemental Table 3
Bad Loans of FILP Agencies, 31 March 2001
(billion yen and percents)

Bad Loans		Loan Loss Reserve		
in yen[1]	as % total	in yen	as % of bad loans[2]	
				Government Financial Institutions:
1397.8	1.8	41.1	2.9	Government Housing Loan Corp
940.3	8.7	439.4	46.7	National Life Finance Corp
432.7	5.7	253.4	58.6	Japan Finance Corp for Small Business
193.6	5.1	44.1	22.8	Agriculture, Forestry & Fisheries Finance Corp
156.1	9.2	21.6	13.8	Okinawa Development Finance Corp
616.2	3.5	342.9	55.6	Development Bank of Japan
809.2	3.7	528.0	65.2	Japan Bank for International Cooperation
				Special Public Corps:
43.6	2.2	3.3	7.6	Urban Development Corp
44.8	0.5	15.2	33.9	Pension Welfare Service Public Corp
17.0	2.6	6.9	40.6	Employment and Human Resources Development Org
22.8*	6.2	33.0	144.7	Japan Environment Corp
10.5*	9.0	5.3	50.5	Japan Regional Development Corp
21.8	0.8	5.0	22.9	Social Welfare and Medical Service Corp
2.3	3.0	36.4	1582.6	Labor Welfare Corp
7.8	0.9	2.5	32.1	Promotion & Mutual Aid Corp for Private Schools of Japan
72.2	3.0	62.5	86.6	Japan Scholarship Foundation
131.9*	8.1	156.4	118.6	Japan Small and Medium Enterprise Corp
0.5	23.8	0.4	80.0	Japan Green Resources Corp
5.2	67.6	0.5	9.6	Japan International Cooperation Agency
0.022	0.4	0.024	109.1	Bio-oriented Technology Research Advancement Inst
0.9	0.05	0.9	100.0	Japan Railway Construction Public Corp
11.5	3.9	4.8	41.7	Corp for Advanced Transport and Technology
4.3	31.2	0.014	0.3	Fund for Promotion & Development of Amami Isles
1.7	9.4	0.2	11.8	Metal Mining Agency of Japan
120.2	43.9	20.0	16.6	Japan National Oil Corp
				Special Firm:
533.9	4.9	464.6	87.0	Shoko Chukin Bank

5598.8	3.2	-	-	Total for all agencies
5440.9	-	2261.7	41.6	Total for under-reserved agencies

FILP agencies not listed in this table do not have any loans to other corporations or do not disclose non-performing loans.

1 For the government financial institutions and Shoko Chukin Bank, entries are for risk-management loans. SPCs are allowed to use a less strict definition. For them, the figures show amounts of loans past-due 6 months or more or loans to bankrupt entities that they report with their balance sheets.

2 An entry under 100% means the agency is under-reserved. The absolute amount is given in Appendix Table 1. Only 5 of the 26 agencies listed have reserves equal to or in excess of their bad loans.

* The administrative cost statements of Japan Environment Corp, Japan Regional Development Corp, and Japan Small and Medium Enterprise Corp do not have any reference to non-performing loans. However, their original financial statements do, so data are taken from there.

Sources: Administrative cost statements of the agencies, except as noted by *.

Supplemental Table 4
Over-Valuation of Business Assets held by FILP Agencies, 31 March 2001
(billion yen and percents)

Asset Values: - Original[1]	- ACS[2]	- As revalued	Over valuation (%)[3]	
16,959	16,624	15,425	7.8	Urban Development Corp
257	252	87	189.9	Japan Environment Corp
1,232	-	1,189	3.6	Teito Rapid Transit Authority
151	162	125	29.6	Japan Sewage Works Agency
38,532	32,808	28,363	15.7	Japan Highway Public Corp
6,754	5,827	4,720	23.5	Metropolitan Expressway Public Corp
4,790	3,954	3,478	13.7	Hanshin Expressway Public Corp
3,946	3,538	2,890	22.4	Honshu-Shikoku Bridge Authority
5,362	5,335	2,782	91.8	Japan Railway Construction Public Corp
824	825	606	36.1	New Tokyo International Airport Authority
3,638	3,638	3,174	14.6	Water Resources Development Public Corp
2,215	-	2,478	-10.6	Electric Power Development Co

Only agencies reporting significant physical assets have been revalued. We are unable to revalue two agencies (Japan Regional Development Corporation and Japan Green Resources Corporation) because changes in accounting rules in 1986 prevent a consistent time series.

1 Asset values reported in original balance sheets.
2 Asset values reported in administrative cost statements.
3 Difference between revalued assets and amount reported in the administrative cost statement as a percentage of the revalued assets, except for Teito Rapid Transit Authority and Electric Power Development Company. They are believed to have been publishing balance sheets comparable to those of private sector companies, and hence are not required to file administrative cost statements. Therefore, their original balance sheets are used. Absolute amounts are in Appendix Table 1 column 2.

Source: Authors' calculation based on the data published in *Zaisei Kin'yu Tokei Geppo* (Ministry of Finance Statistics Monthly), various issues, and the administrative cost statement of each agency. Supplemental Appendix A describes the revaluation method in detail and discusses the depreciation rates and land price series used for each corporation. It is available elsewhere on this web site.

Supplemental Table 5
Secondary Market Yield Spreads on FILP Agency Bonds (Percents)

Bond (Date of Maturity)	Date							
	5/31 2002	5/1 2002	4/1 2002	3/1 2002	2/1 2002	1/4 2002	12/3 2001	11/1 2001
National Life Finance Corporation	0.181							
Agriculture, Forestry & Fisheries Finance Co. 1 (3/20/07)	0.476	0.525	0.500	0.257				
Japan Finance Co. for Municipal Enterprises 1 (12/26/11)	0.148	0.154	0.172	0.120				
Development Bank of Japan 1 (9/20/06)	0.124	0.133	0.155	0.132	0.118	0.122	0.157	0.133
Development Bank of Japan 2 (3/20/07)	0.132	0.130	0.149	0.110				
Development Bank of Japan 3 (6/20/07)	0.121	0.125						
Japan Bank for International Cooperation 1 (9/20/06)	0.116	0.128	0.171	0.118	0.081	0.095	0.083	0.101
Japan Bank for International Cooperation 2 (9/20/11)	0.132	0.141	0.166	0.115	0.109	0.104	0.098	0.103
Japan Bank for International Cooperation 3 (3/20/07)	0.119	0.114						
Japan Bank for International Cooperation 4 (3/20/12)	0.138	0.141						
Urban Development Corporation 1 (3/18/05)	0.777	0.817	0.786					
Japan Regional Development Corporation 1 (3/28/05)	0.818	0.814	0.803					
Social Welfare & Medical Service Corp. 1 (2/18/05)	0.557	0.583	0.506	0.305				
Promotion Corp. for Private Schools 1 (11/21/11)	0.629	0.582	0.535	0.273	0.226	0.205	0.202	
Japan Scholarship Foundation 1 (12/5/11)	0.689	0.592	0.543	0.289	0.258	0.244		
Japan Highway Public Corporation 1 (3/20/07)	0.686	0.721	0.593	0.391				
Japan Highway Public Corporation 2 (12/20/11)	0.740	0.747	0.688	0.439				
Japan Highway Public Corporation 3 (6/20/07)	0.727	0.798						
Japan Highway Public Corporation 4 (3/20/12)	0.791	0.845						
Metropolitan Expressway Public Corporation 1 (6/20/07)	0.778							
Metropolitan Expressway Public Corporation 2 (3/20/12)	0.812							
Hanshin Expressway Public Corporation 1 (3/20/07)	0.728	0.732	0.647	0.548				
Hanshin Expressway Public Corporation 2 (12/20/11)	0.773	0.783	0.741	0.570				
Japan Railway Construction Pub. Corp. 1 (12/20/11)	0.689	0.639	0.666	0.333	0.222	0.207		
New Tokyo Int'l Airport Authority 1 (9/22/11)	0.686	0.662	0.614	0.387	0.329	0.317	0.306	0.316
New Tokyo Int'l Airport Authority 2 (12/13/11)	0.717	0.663	0.600	0.389	0.337	0.325		
Corp. for Adv'd Transport & Tech. 1 (12/20/05)	0.594	0.568	0.479	0.264	0.217	0.220	0.205	
Water Resource Development Corp. 1 (9/20/11)	0.666	0.615	0.566	0.271	0.200	0.203		

Source: Japan Securities Dealers Association, *Koshasai Kijun Kehai* (*Member Quotation of Bond Prices*) (http://www.jsda.or.jp).
Notes: The date at the top of each column shows the date when the quotations were published. The spread is the difference between the compound yields of the bond and a long-term JGB (Japanese Government Bonds) with a comparable maturity. When there are more than one JGBs with the same maturity, the yield was calculated as the simple average of their compound yields. When we cannot find any long-term JGB that matures within a month before or after the FILP agency bond matures, we took the weighted average of the yields of bonds with two closest maturing dates.

Supplemental Appendix A for Takero Doi and Takeo Hoshi "Paying for the FILP": Reevaluation of business assets held by public corporations

September 1, 2002

This appendix documents our construction of the market value of business assets for each public corporation. We start out by dividing the amount of business assets (and the construction in progress) reported on the book into land (which does not depreciate) and other assets (which do depreciate). We need to know both how much of the business assets at the beginning of calculation (fiscal 1965 in our case) was land and how much of the new investment in each year has been in land. For the agencies that predominantly engage in construction projects, the information is obtained from *Kensetsu Gyomu Tokei Nenpo (Statistical Yearbook of Construction Business)* published by the Ministry of Construction (MOC). Some corporations, although the information is not found in the MOC publication, distinguish between land and the other business assets in their administrative cost statements. For such a case, we set the proportion of land business asset so that the ratio of the land to the other business assets as of the end of fiscal 2000 that we estimate is equal to the ratio of the land to the other business assets reported in the administrative cost statement. For two corporations (Japan Environment Corporation and Electric Power Development Company), we have not been able to find any information about the proportion of land in their assets. Thus, we assumed it to be constant over time at 20%. Table A.1 (second column) summarizes the data source for the proportion of land assets that we used for each public corporation. "MOC" denotes the information on the land intensity of the agency's assets is taken from the MOF publication. "ACS" denotes the land intensity figures were estimated backward from the ratio reported in the administrative cost statement for fiscal 2000.

Let A_t be the book value of all business assets at the beginning of period t, J_t be the book value of construction in progress at the beginning of period t, and D_t be the depreciation of business assets during the period t reported in the book. All of these are readily available in the financial statements that each public corporation publishes. Let α be the proportion of land in the all business assets. We estimate the investment in land during the period t as:

$$IL_t = \alpha\{(A_{t+1} + J_{t+1}) - (A_t + J_t)\} \quad \text{(A.1)}$$

Similarly, the investment in the business assets other than land is estimated as:

$$IK_t = (1-\alpha)\{(A_{t+1} + J_{t+1}) - (A_t + J_t)\} + D_t \quad \text{(A.2)}$$

We assume all the depreciation reported on the book is allocated to non-land business assets, assuming the corporation does not let the land depreciate. Note that the investments calculated using (A.1) and (A.2) can be either positive or negative. Negative investments would imply (net) depletion or sales of the assets.

We assume that the book value of the business assets (including the construction in progress) was equal to its market value at the end of fiscal 1965 (beginning of fiscal 1966). Let XL_t and XK_t be the market value of land and the business assets other than land in place respectively at the beginning of period t (including the construction in progress). Then our assumptions are:

(A.3) $XL_{1966} = a(A_{1966} + J_{1966})$

(A.4) $XK_{1966} = (1-a)(A_{1966} + J_{1966})$

If the corporation was established after 1966, the above equalities are assumed to hold at the end of its first accounting year.

Letting p_{lt} be the land price and p_{kt} be the price of the other business assets respectively at the beginning of period t, and d be the economic depreciation rate of the (non-land) business assets, we can calculate the market values of the land and the other business assets for the following years recursively using the following formulas.

(A.5) $XL_t = \frac{p_{lt}}{p_{lt-1}} XL_{t-1} + IL_t$

(A.6) $XK_t = \frac{p_{kt}}{p_{kt-1}}(1-d)XK_{t-1} + IK_t$

The market value of total business assets at the beginning of period t is calculated by summing up XL_t and XK_t.

The economic depreciation rates for the non-land assets held by public corporations are taken from Economic Planning Agency (1998)**.** The depreciation rates used for each corporation are reported in the last column of Table A.1. For the price of business assets other than land, the deflator for the public investment reported in the national income accounts was used. Land price indices compiled by the Japan Real Estate Research Institute were used for the land price. Table A.2 lists the land price series that we used for each public corporation.

Table A.1. Assumptions on Business Assets and Depreciations for Public Corporations

Agency	Land as % of Total Business Assets	Life of Non-land Assets (years)	Depreciation Rate of Non-land Assets (%)
Urban Development Corporation			
Account for Urban Development	MOC	45	5.0
Account for Railroads	MOC	26	8.5
Japan Environment Corporation	20%	15	14.2
Teito Rapid Transit Authority	ACS	34	6.5
Japan Sewage Works Agency	ACS	15	14.2
Japan Highway Public Corporation	MOC	47	4.5
Metropolitan Expressway Public Corp.	MOC	47	4.5
Hanshin Expressway Public Corporation	MOC	47	4.5
Honshu-Shikoku Bridge Authority	MOC	45	5.0
Japan Railway Construction Public Corp.	ACS	26	8.5
New Tokyo International Airport Authority	ACS	17	12.7

Water Resources Development Public Corp.	MOC	49	4.6
Electric Power Development Company	20%	26	8.3

Source: Ministry of Construction, *Kensetsu Gyomu Tokei Nenpo (Statistical Yearbook of Construction Business)*, various issues, and *Tokushu Hojin Soran (Handbook of Special Public Corporations)*, various issues.

Notes: "MOC" denotes the information on the land intensity of the agency's assets is taken from the MOF publication. Because the data are not yet available for fiscal 1999 and 2000, the simple average of the land intensity for fiscal 1994-1998 was used for fiscal 1999 and 2000. "ACS" denotes the land intensity figures were estimated backward from the ratio reported in the administrative cost statement for fiscal 2000.

Life of the non-land business assets for each corporation was calculated as the weighted average of the lifetimes for the components of the assets. The figures for each type of assets were taken from Economic Planning Agency (1998) and as follows: road (47 years), airport (17 years), assets held by Japan Railway Construction Public Corporation (26 years), subway (34 years), sewage (15 years), waste disposal facilities (15 years), flood control facilities (49 years), and assets held by Electric Power Development Company (26 years).

The depreciation rate for each corporation is calculated so that the scrap value of the assets at the end of their life is 10% (the scrap value of assets specified in the Japanese tax code) of the original value.

We tried to include all public corporations whose business assets mostly consist of physical capitals. We were not able to reevaluate the assets of Japan Regional Development Corporation and Japan Green Resources Corporation, because the change in the accounting rule in 1986 made it impossible for us to come up with consistent time series.

Table A.2. Land Price Series

Agency	Land Price Series Used
Urban Development Corporation	
Account for Urban Development	JREI (6 largest cities, residential use)
Account for Railroads	OPLP (Tokyo metropolitan, residential use)
Japan Environment Corporation	JREI (all urban areas, industrial use)
Teito Rapid Transit Authority	OPLP (Tokyo metropolitan, semi-industrial use)
Japan Sewage Works Agency	JREI (all urban areas, residential use)
Japan Highway Public Corporation	JREI (all urban areas, all uses)
Metropolitan Expressway Public Corporation	OPLP (Tokyo metropolitan, semi-industrial use)
Hanshin Expressway Public Corporation	OPLP (Osaka metropolitan, semi-industrial use)
Honshu-Shikoku Bridge Authority	JREI (outside 6 largest cities, residential use)
Japan Railway Construction Public Corp.	JREI (all urban areas, all uses)
New Tokyo International Airport Authority	OPLP (Tokyo metropolitan, semi-industrial use)
Water Resources Development Public Corp.	JREI (all urban areas, industrial use)
Electric Power Development Company	JREI (all urban areas, industrial use)

Notes: JREI denotes a series taken from *Index of Urban Land Prices* by the Japan Real Estate Institute. OPLP denotes a series taken from *Koji Chika (Officially Published Land Prices)* by the Ministry of Land, Infrastructure, and Transport. OPLP is not available for the period before 1969. We extended the OPLP series back to fiscal 1965 by splicing the JREI indexes for 6 largest cities.