Measuring Government's Contingent Positions in Japan's Flow of Funds Accounts: Implications for GFSM

Satoru Hagino
Bank of Japan
2-1-1 Nihonbashi-Hongokucho Chuo-ku
Tokyo 103-8660 Japan
satoru.hagino@boj.or.jp

Chihiro Sakuraba
Bank of Japan
2-1-1 Nihonbashi-Hongokucho Chuo-ku
Tokyo 103-8660 Japan
chihiro.sakuraba5378@boj.or.jp

1. Introduction

This paper[1] discusses government contingent positions to be recorded in the framework of the System of Natinoal Accounts (SNA) 2008 and the IMF Government Finance Statistics Manual (GFSM) 2001. In conformity with the long-standing asset boundary, which limits financial assets and liabilities to unconditional claims or obligations, both the SNA 2008 and GFSM 2001 do not treat contingencies in the same way as they do for financial assets and liabilities. However, given that contingencies, especially those that may result in an expense, can be particularly significant for the government, both the GFSM 2001 and SNA 2008 recommend that aggregate data on all important contingencies be recorded as memorandum items. In light of this recommendation, we discuss in this paper the measure of some contingent liabilities of Japan's central government to consider the applicability of SNA 2008 and GFSM 2001 recommendations. These are contingent liabilities related to the Earthquake Reinsurance and Trade Reinsurance Special Accounts, the social security pension schemes, and guarantees of public corporations bonds.

The Great East Japan Earthquake, which hit Japan on March 11, 2011, shed light on the Japanese government's Earthquake Reinsurance Special Account as well as on its Trade Reinsurance Special Account, since they cover a part of losses created by the Great Earthquake. This paper identifies some of the contingent liabilities of these special accounts. Faced with such an unusual disastor, the difficulty of defining the contingency for the government would be indicated.

This paper also examines the measurement of contingent liabilities for Japan's social security pension schemes. In addition to the practical difficulty of measuring such liabilities, the conceptual inconsistency between the SNA 2008 and GFSM 2001 recommendations will be examined for future reconsideration of the GFSM 2001 recommendation of recording contingent positions in the government sector accounts.

Finally, we discuss the central government guarantees to public corporation bonds, and examine the imputation of guarantee fees based on the interest rate spreads between guaranteed and non-guaranteed public corporation bonds. Such an examination will lead to envisaging whether the guarantee of public corporation bonds should be treated as a standardized guarantee, as stipulated in the SNA 2008.

Examining these questions requires that we briefly explain the central government finance system, which includes general and special accounts. The institutional units that assume the above contingent liabilities are always special accounts, which are classified in various sectors in Japan's Flow of Funds Accounts (JFFA) compiled by the Bank of Japan.

[1] The views expressed herein are those of the authors, and should not be attributed to the Bank of Japan.

2. Japan's Government Finance System

Japan's government is comprised of the central and local governments, and the central government's accounting units are classified into a general account and special accounts. One feature of Japan's central government finance system is that special accounts are numerous, although their number has been reduced to 18 in 2011 after reaching 45 at the peak in 1967.

Although both the general account and all special accounts are administered by the central government, special accounts are classified into various sectors in the JFFA: other financial intermediaries sector, non-life insurance sector, public nonfinancial corporations sector, the social security funds sector, and the central government sector.

The special accounts classified into the other financial intermediaries sector are those related to the Fiscal Investment and Loans Program of the central government. The Special Account of Fiscal Investment Loan Fund is classified in this sector.

The special accounts classified into the non-life insurance sector are those engaging in property-casualty insurance or reinsurance activities to supplement private non-life insurance companies. Such accounts are comprised of the Forest Insurance Special Account, the Trade Reinsurance Special Account, the Special Account for Agricultural Mutual Aid Reinsurance, the Special Account for Fishing Vessel Reinsurance and Mutual Relief of Fisheries, and the Earthquake Reinsurance Special Account.

The special accounts classified into the public nonfinancial corporations sector are autonomous accounts that engage in the same kind of activities as their counterparts in the private sector, and charge prices proportional to the quality and quantity of the goods and services. The Special Account for the National Forest Service is classified in this sector.

The special accounts classified into the social security funds sector are central government accounts that manage social insurance such as pension insurance (public pensions), employment insurance and workmen's accident compensation insurance, collecting social insurance premiums, investing funds, and paying insurance claims. They are comprised of the Pension Special Account and the Labor Insurance Special Account.

The special accounts classified into the central government sector are accounts that are not classified elsewhere. Such accounts are comprised of the Special Account for Social Infrastructure Improvement, the Special Account for Registration, the Special Account for Foreign Exchange Fund, the Food Supply Special Account, the Patent Special Account, the Special Account for Safety of Motor Vehicles, the Special Account for Allotment of Local Allocation Tax and Local Transfer Tax, the Special Account for National Debt Consolidation Fund, and the Special Account for Energy Policy.

3. Central Government's Contingent Liabilities

(1) Earthquake Reinsurance and Trade Reinsurance Special Accounts

The GFSM 2001 and SNA 2008 emphasize that, collectively, contingencies may be important for financial programming, policy, and analysis. Indeed, the impact of contingencies related to earthquakes has been significant for Japan.

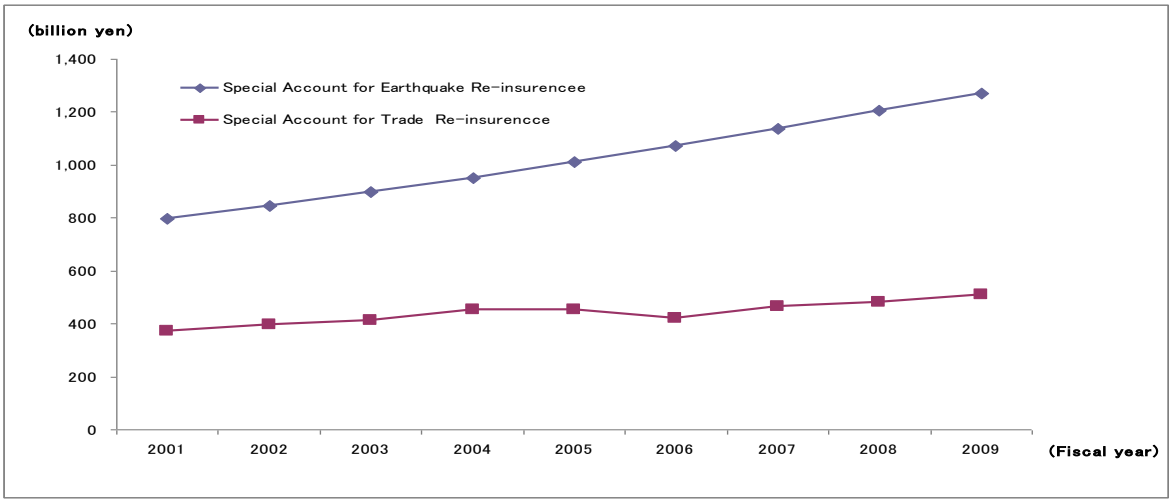
Among government special accounts that engage in insurance activities, the Earthquake Reinsurance and Trade Reinsurance Special Accounts will assume liabilities to insurance claims triggered by the recent Great East Japan Earthquake.

The Earthquake Reinsurance Special Account underwrites half of reinsurance contracts of earthquake insurance products provided by Japan's nonlife insurance companies and accumulates the reinsurance premiums (Figure 1). The upper limit of government's reinsurance payments is set at 4.3 trillion yen, assuming the total reinsurance payments, including those by private reinsurance companies, as 5.5 trillion yen, which is based on the damage caused by the Great Kanto Earthquake of 1923. Since it retains reserves

of 1.2599 trillion yen, its contingent liabilities amount to 3.0401 trillion yen.

The Trade Reinsurance Special Account underwrites reinsurance contracts of trade insurance provided by the Japan Trade Insurance Corporation and accumulates the reinsurance premiums (Figure 1). In connection with the Great East Japan Earthquake, some export products by Japanese companies lost their market because of the mal-function in supply-chains of intermediate goods. The government made it clear that such losses are compensated by trade insurance contracts. It is estimated that around 10 percent of Japan's total exports are covered by the trade insurance contracts. Thus, the contingent liabilities of the central government are estimated, at maximum, to be 6.39 trillion yen, based on the amounts of exports from Japan for the year 2010.

(Figure 1) Changes in the Outstanding Amount of Liability Reserves



Given that the above reinsurance special accounts assume the risk for catastrophic earthquakes, for which private insurance companies cannot afford to compensate all of the losses caused, measuring government contingent liabilities is not an easy task. One practical method is to record the amount of reinsurance payments in the budget of these accounts. However, budgetary annual reinsurance payments for the Earthquake Reinsurance Special Account may not match actual reinsurance payments, in particular when gigantic losses are created by a catastrophic earthquake such as the Great East Japan Earthquake.

In the future, reinsurance activities of the above special accounts might be transferred to private reinsurance companies in the context of reducing the number of special accounts. In this case, the central government would provide subsidies to those private reinsurance companies from its general accounts so that large insurance payments could be covered. If such a system is introduced, measuring government contingent liabilities will become much more difficult.

(2) Pension Special Account

The SNA 2008 recommends that estimates of the liabilities of social security be included in a supplementary table instead of the main accounts. The motivation for calculating such estimates is a concern that benefits may exceed contributions, or that the social security balance is likely to worsen as Japan's population continues to age. On the other hand, the reason for allowing no record for the estimates in the main accounts is that there is no savings element involved for pension participants. In addition, such estimates would fluctuate to a large extent if the government changes the social security pension scheme. As a result, the reliability of those estimates remains relatively low.

The GFSM 2001 also states that no liability is recognized in the GFS system for government promises to pay social security benefits in the future, such as retirement pensions and health care. The present value of social security benefits that have already been earned--according to the existing laws and regulations but are

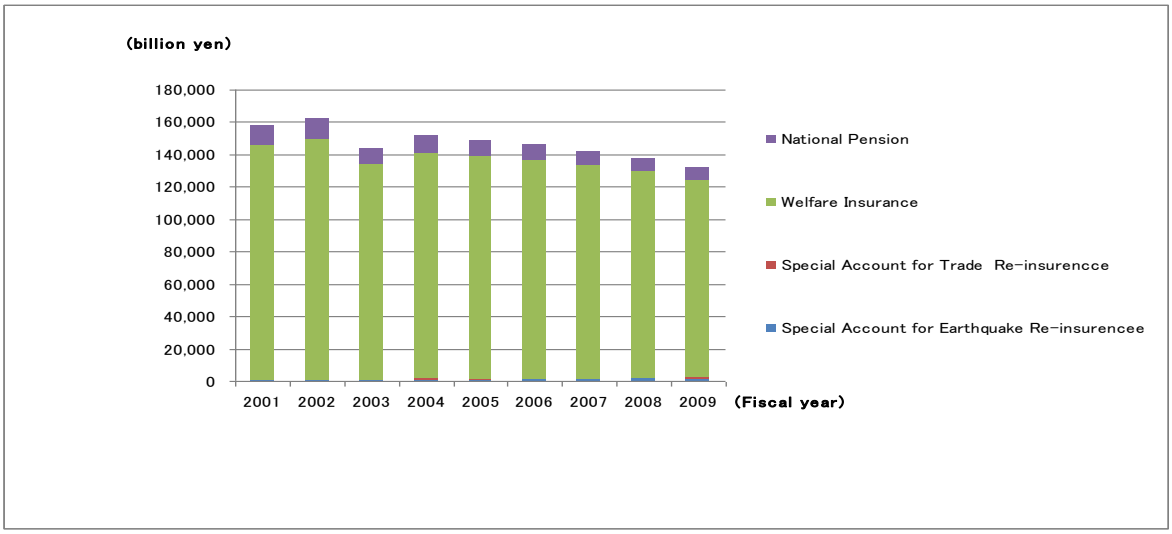
payable in the future--should be calculated in a manner similar to the liabilities of an employer retirement scheme and be shown as a memorandum item. At the same time, the GFSM 2001 states that the receipt of social contribution and payment of social benefits by unfunded retirement schemes are treated as transactions in insurance technical reserves, while they are treated as transfer payments in the SNA 2008. In this respect, the Government Finance Statistics Advisory Committee has begun to discuss an update of the GFSM. In this process, the treatment of the social security pension system should be further clarified; conformity with the SNA 2008 should be taken into account.

In the JFFA, the Social Security Funds sector includes institutions that manage social insurance such as pension insurance, the so-called social security pensions, medical care insurance, employment insurance, and workers' accident compensation insurance. The Japanese pension system consists of three tiers: the Basic Pension Account, the Welfare Insurance, and the Employee Pension Fund. The first two tiers comprise social security pensions, and the Employee Pension Funds are classified under pension funds in the financial institutions sector. In fact, however, for many corporations, the Employee Pension Fund manages the accounts of Welfare Insurance of pension contributors who participate in the Fund. There is an argument that the portion of Welfare Insurance managed by the Employee Pension Fund should be classified under public pensions in the social security funds sector. However, that portion of Welfare Insurance is not segregated, and thus there is no alternative to classifying the entire employee pension funds in the financial institutions sector.

Mutual Pensions in the main civil servant pension funds also cover both the social security portion and the employment-related pension portion. Since Mutual Pensions manage the employment-related portion, there is an argument that Mutual Pensions should be also classified under pension funds in the financial institutions sector. At the same time, these pension funds manage the first-tier pension portion for participants aged 65 or older who have joined prior to the introduction of the Basic Pension Accounts. The JFFA, then, classifies Mutual Pensions under public pensions in the social security funds sector.

The difficulty of separating employment-related pension funds and social security pensions appears in estimating the liabilities of social security pensions. In Japan, the Ministry of Health, Labor and Welfare publishes estimates of social security pension liabilities every five years. The 2009 estimates showed liabilities of 830 trillion yen for Welfare Insurance, 120 trillion yen for National Pension, and 172 trillion yen for Mutual Pensions, totaling 1,122 trillion yen or almost US $13 trillion. This amount appears very significant; the total household assets in the JFFA stood at 1,452 trillion yen at the end of the fiscal year 2009. To obtain estimates of public pension liabilities more frequently, elaboration of estimation models will be needed (Figure 2).

(Figure 2) Changes in the Outstanding Amount of Liability Reserves

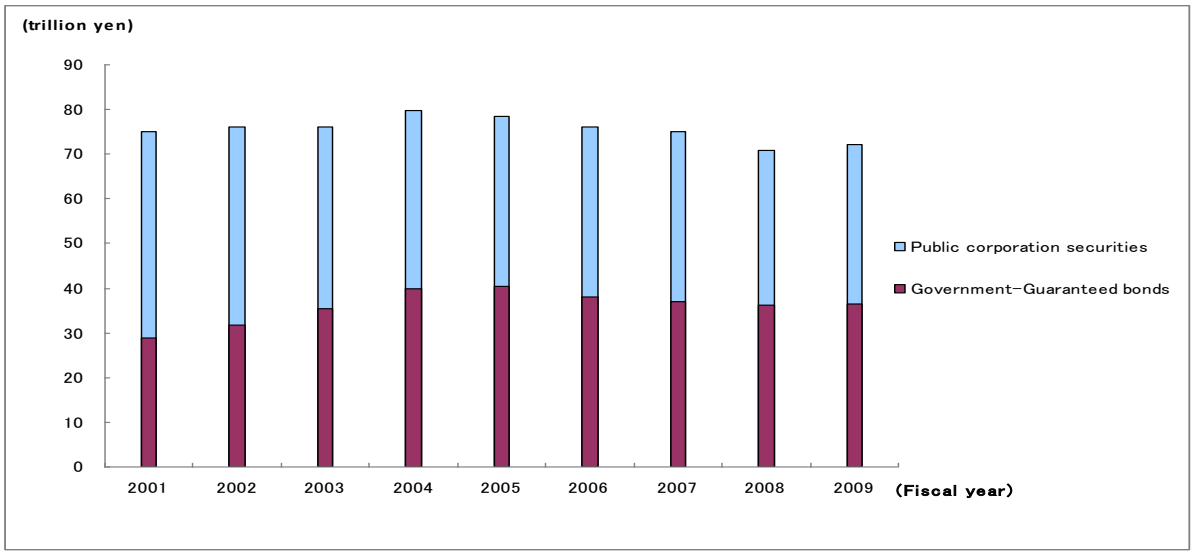


(3) Central Government's Guarantee of Public Corporation Securities

The GFSM 2001 states that a common type of contingent liabilities of the government is a guarantee of payment, such as when the government guarantees the repayment of a loan by another borrower. Such arrangements are contingent because the guarantor is required to repay the loan only if the borrower defaults.

Japan's major public corporations raise funds by issuing bonds or by borrowing from financial institutions in accordance with special laws for those public corporations. Some of those securities and borrowings are guaranteed by the central government. In the JFFA, such bonds are classified as Public corporation securities and their issuers are classified as public nonfinancial corporations, the central government, or public financial institutions. Also, some bonds issued by public corporations are guaranteed by the central government, although the amounts have not been large in the bond markets (Figure 3).

(Figure 3) Outstanding Amount of Government-Guaranteed Bonds and Non-Government-Guaranteed Bonds



The amount of contingent liabilities corresponds to the outstanding amounts of guaranteed public corporation bonds; it should be recorded as contingent liabilities of the Special Account of Fiscal Investment Loan Fund, since such guarantees are budgeted as a part of the Fiscal Investment and Loans Program.

For government-guaranteed bonds and borrowings, however, guarantee fees are not paid from guarantees to the central government, despite the guarantee provided by the central government. Therefore, it might be more appropriate to impute subsidies from the central government to public corporations and guarantee fee payments from public corporations to the central government. The measurement of the subsidies and guarantee fee payments can be based on the interest spread between public corporations securities guaranteed by the government and those without such guarantees. Comparing interest rates of major public corporation bonds of the same issuers, we see that interest rate spreads are calculated to range from 0.07 to 0.29 percent point when adjusting different maturities to 5 years (Table 1).

One question about the government-guaranteed securities and loans is: Can such a guarantee be regarded as a standardized guarantee scheme, as stipulated in the SNA 2008? Standardized guarantees are to be distinguished from one-off guarantees based on two criteria: 1) repeated transactions with similar features and pooling of risks, and 2) ability of estimating loss based on available statistics by using a probability-weighted concept; such guarantees may be provided by the government. If the government is to provide standardized guarantees, they are recorded as liabilities to meet the call on guarantees in conformity

with the SNA 2008. At this stage, statistics of default probability are not available in the absence of actual defaults. Thus, they might not be regarded as standardized guarantees.

(Table 1) Interest Rate Spreads* Between Guaranteed and Non-Guaranteed Bonds

* Original bond coupon rates are transformed to 5 year interest rates by using different rates of yen-yen swap.

1) Bonds Issued by Japan Finance Organization for Municipalities

month of bonds issued	Non-Government guaranteed bond Maturity (year)	Non-Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (A)	Government guaranteed bond Maturity (year)	Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (B)	Interest rate spread (% point) (A − B)
2009.2	10	1.5900	1.0411	10	1.3000	0.8512	0.1899
2009.6	10	1.6480	1.0791	10	1.5000	0.9822	0.0969
2009.7	10	1.4060	0.9206	10	1.4000	0.9167	0.0039
2009.1	10	1.3950	1.3454	10	1.2000	1.2162	0.1292
2010.1	10	1.4530	0.7624	10	1.3000	0.6821	0.0803
2010.4	10	1.4650	0.7687	10	1.4000	0.7346	0.0341
2010.7	10	1.1740	0.6160	10	1.1000	0.5772	0.0388
2010.1	10	0.9760	0.5121	10	0.9000	0.4723	0.0399
2011.1	10	1.2800	0.6717	10	1.2000	0.6297	0.0420
2011.4	10	1.4180	0.7441	10	1.3000	0.6821	0.0619
							Average
							0.0717

2) Bonds Issued by Japan Expressway Holding and Debt Repayment Agency

month of bonds issued	Non-Government guaranteed bond Maturity (year)	Non-Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (A)	Government guaranteed bond Maturity (year)	Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (B)	Interest rate spread (% point) (A − B)
2008.4	10	1.6500	1.2542	10	1.4000	1.0641	0.1900
2008.7	10	1.8700	1.4214	10	1.7000	1.2922	0.1292
2008.9	10	1.6900	1.2846	10	1.5000	1.1401	0.1444
2009.1	10	1.6300	1.0673	10	1.3000	0.8512	0.2161
2009.3	10	1.6700	1.0935	10	1.3000	0.8512	0.2423
2009.4	10	1.7100	1.1197	10	1.4000	0.9167	0.2030
2009.12	10	1.3800	0.9036	10	1.2000	0.7858	0.1179
2010.2	10	1.4300	0.7504	10	1.4000	0.7346	0.0157
2010.5	10	1.3500	0.7084	10	1.3000	0.6821	0.0262
2010.7	10	1.2400	0.6507	10	1.1000	0.5772	0.0735
							Average
							0.1358

3) Bonds Issued by Japan Finance Corporation

month of bonds issued	Non-Government guaranteed bond Maturity (year)	Non-Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (A)	Government guaranteed bond Maturity (year)	Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (B)	Interest rate spread (% point) (A − B)
2005.9	7	0.9600	1.0401	10	1.3000	0.9440	0.0960
2006.12	3	1.1300	1.2814	6	1.4000	1.2651	0.0163
2008.3	3	0.7900	0.8968	6	0.9000	0.8000	0.0968
2009.9	5	0.7200	0.7200	6	0.8000	0.6312	0.0888
2009.1	10	1.4300	0.8614	6	0.7000	0.5530	0.3084
2010.2	5	0.6180	0.6180	4	0.4000	0.4640	0.1540
2010.5	5	0.5730	0.5730	4	0.3000	0.3418	0.2312
2010.8	5	0.4210	0.4210	6	0.5000	0.3856	0.0354
2010.1	5	0.3710	0.3710	6	0.3000	0.2286	0.1424
2011.5	5	0.5910	0.5910	6	0.7000	0.5111	0.0799
							Average
							0.1249

4) Bonds Issued by Urban Renaissance Agency

month of bonds issued	Non-Government guaranteed bond Maturity (year)	Non-Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (A)	Government guaranteed bond Maturity (year)	Government guaranteed bond Interest Rate (%)	Interest Rate for the Maturity of 5 years (%) (B)	Interest rate spread (% point) (A − B)
2008.6	5	0.7500	0.7500	4	0.4000	0.4563	0.2094
2008.9	5	0.4500	0.4500	4	0.2000	0.2755	0.0734
2008.11	5	0.5300	0.5300	4	0.2000	0.2755	0.3674
2009.1	3	0.5100	0.5100	4	0.1000	0.1377	0.4207
2009.6	5	0.7800	0.7800	3	0.4000	0.5081	0.4448
2009.9	5	1.0800	1.0800	3	0.5000	0.6352	0.2719
2010.6	5	0.8700	1.1052	2	0.6000	0.6845	0.3723
2010.9	5	1.2800	1.2800	2	0.8000	0.9126	0.2545
2010.11	5	1.2500	1.2500	2	1.1000	1.1766	0.1745
2011.2	5	1.6000	1.6000	4	1.3000	1.3906	0.2937
							Average
							0.2883

A further question is whether Japan's local government bonds issued in Japan are guaranteed by the central government. Although local government bonds issued in Japan are not explicitly guaranteed by the central government, their issues have been authorized by the central government and credit risk spreads among issuers have not been observed in the financial market, which suggests a tacit guarantee by the central government. Japan's Ministry of Internal Affairs and Communication explains that local government bonds will be reimbursed due to the arrangements for securing local governments' financial resources for the reimbursement, monitoring their financial situation, and assuring their sound financial status. Thus, technical supports by the central government are identified. In the future, central government guarantees might be measured and imputed if liberalization of local government bond issues proceeds and if interest rate spreads among some major issuers become observed in the financial market.

4. Conclusion

Measuring government's contingent positions is a challenging task. This paper introduced contingent positions for government reinsurance contracts, social security pension schemes, and guarantees to public corporation bonds and borrowings in Japan. It also identified some practical difficulties.

After the Great East Japan Earthquake, the Japanese government's Earthquake Special Accounts have attracted public interest. Although the amount of its contingent liabilities is limited, it is difficult to foresee the entire expenditure of the central government related to the losses by the Great East Japan Earthquake for the purpose of measuring the central government's entire contingent liabilities. This suggests the difficulty of defining the contingency for the government.

Regarding the treatment of the social security pension, the GFSM 2001 recommend recording contingent positions in the government sector accounts rather than as memorandum items as stipulated in the SNA 2008. Similar to other nations, pension liabilities involve some complicated issues on the degree of contingency. In this context, careful treatment of pension liabilities should be described in the GFSM 2011 so that the SNA 2008 and GFSM are consistent with one another.

To impute the central government guarantees to public corporation bonds, interest rate spreads between guaranteed and non-guaranteed public corporation bonds are useful measures. But compilers of statistics need to make careful adjustments so that compared bonds have the same maturities and creditworthiness.

REFERENCES

Eurostat, IMF, OECD, UN and World Bank (2009), *System of National Accounts 2008 (SNA 2008).*

IMF (2000), *Monetary and Financial Statistics Manual (MFSM 2000)*

IMF (2001), *Government Finance Statistics Manual (GFSM 2001)*.

Bank of Japan (2010), *Guide to Japan's Flow of Funds Accounts*, July 2010.

Statistics Department IMF (2004), The Statistical Treatment of Employers' Pension Schemes, December 2004.