THE STATISTICAL TREATMENT OF EMPLOYERS' PENSION SCHEMES

Issue Paper Prepared for the December 2004
Meeting of the Advisory Expert Group on National Accounts

Statistics Department, INTERNATIONAL MONETARY FUND

Moderators of the Treatment of Pension Schemes in Macroeconomic Statistics
Electronic Discussion Group[1]

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[1] The IMF Statistics Department wishes to thank Mr. Philippe de Rougemont, who served for several years as committed moderator to the Electronic Discussion Group.

EXECUTIVE SUMMARY

A. Introduction

1. The Intersecretariat Working Group on National Accounts (ISWGNA), prompted by questions concerning the treatment of pension schemes in the *System of National Accounts 1993* (*1993 SNA*) and other statistical manuals, requested the Statistics Department of the IMF in 2001 to establish an Electronic Discussion Group (EDG) on pensions. Initially, the task of this EDG was to make proposals on the most appropriate way to account for employers' pension schemes. In a later stage, the EDG was asked to broaden its review of pension arrangements to all pension arrangements. The extension of the EDG's mandate was related to ongoing policy debates on the adequacy of pension plans, including the fiscal sustainability of social security instituted by governments, in times of demographic change.

B. Current SNA position and reason for proposed changes

2. In several instances, the *System of National Accounts 1993* (*1993 SNA*) does not appear to adequately reflect the responsibilities that employers, in particular government agencies, undertake by promising pensions to households. Specifically, the following issues can be mentioned:

- Promises to pay future pensions are recognized as assets/liabilities for funded employers' pension schemes, but not for the unfunded ones.

- The values that the *1993 SNA* records as "actual employers' social contributions" to defined benefit pension funds reflect amounts paid rather than the true cost to the employer of the pension entitlements (present value of additional pension promises) that staff accrue during the accounting period.

- Underfunding or overfunding of defined benefit employers' pension schemes is not portrayed as an obligation or a claim of the employers supporting these schemes.

These *1993 SNA* recording conventions may seriously distort the view on the proper economic transactions and financial positions of employers and government, on the one hand, and households, on the other hand.

C. Evaluation of the problem

3. Concerning the issue of recognizing assets and liabilities for unfunded pension schemes, a decision should be made as to whether the promises from such schemes are definite enough to be recorded as assets and liabilities in statistics. The EDG considered that a promise to pay future pensions answers the definition of a financial asset if (i) honoring such promise is legally enforceable, or (ii) the promise has the character of a "constructive obligation" as defined by General Accepted Accounting Principles (GAAP). The EDG agreed on the desirability of recognizing all such assets irrespective the institutional form the

pension plan may take. The case of employers' pension funds would pose no problems in this respect as the pension obligations directly arise from their deferred compensation nature and therefore should be either legally enforceable or constitute constructive obligations. However, for other types of scheme the situation may be less clear. In view of the wide range of conditions under which social security schemes operate, the EDG considered it was too early to make concrete proposals regarding such schemes for the present *SNA* update.

4. Concerning the recording of actual employers' social contributions, the EDG considered that the cost of employment would be more adequately measured than in the *1993 SNA* if employers' social contributions to defined benefit schemes would be recorded according to actuarial standards. By the same token, it seemed appropriate to also measure property income attributed to insurance policy holders according to actuarial norms.

5. The issue of underfunding or overfunding originates from the option the current *SNA* provides to record a negative or positive net worth for defined benefit pension plans. The EDG thinks, instead, that the employers' final responsibility for the plans they sponsor should be disclosed by recording a liability of the employer in case of underfunding, and a claim of the employer on the pension plan in case of overfunding.

6. The EDG's evaluation of the issues paid due attention to the recommendations of the *Government Finance Statistics Manual 2001* and best practices laid down in accounting standards.

D. Recommendations and their implications for the *SNA*

7. On the basis of the contributions received from many experts, the results of a straw poll conducted in September 2003, and discussions in various international statistical meetings, **the EDG recommends the following:**

- Treat unfunded employers' pension schemes identically to funded employers' pension schemes;

- For all defined benefit employers' pension schemes, use actuarial valuations to measure (i) employers' social contributions and (ii) property income attributed to insurance policy holders;

- Allocate the net assets of defined benefit employers' pension schemes to the sponsoring employers.

8. The first recommendation implies a significant change to the *1993 SNA*. In practice, the effects will be particularly important for government, as many unfunded schemes have been set up by government agencies for the benefit of their employees. The second recommendation changes the accrual of employers' social contributions and property income attributed to insurance policy holders; actual payments that employers make to defined benefit pension schemes would be treated as pure financial transactions. The third recommendation changes the *1993 SNA* by setting the net worth of all employers' pension

schemes at zero by definition. Previously this was only true for the defined contribution plans; the recommendation makes it also applicable for defined benefit plans.

9. It should be noted that none of the EDG's recommendations affect the *1993 SNA*'s treatment of defined contribution pension schemes. This is because by definition these schemes are funded, their obligations are not determined on an actuarial basis, and they cannot be underfunded or overfunded.

I. Background[2]

10. The Intersecretariat Working Group on National Accounts (ISWGNA), prompted by questions concerning the treatment of pension schemes in the *System of National Accounts 1993* (*1993 SNA*) and other statistical manuals, requested the Statistics Department of the IMF in 2001 to establish an Electronic Discussion Group (EDG) on pensions. Initially, the task of this EDG was to make proposals on the most appropriate way to account for employers' pension schemes. A major issue to be addressed was a difference between the *1993 SNA* and the *Government Finance Statistics Manual 2001* (*GFSM*) in the treatment of (government) unfunded employers' schemes. In autumn 2002, the EDG was asked to broaden the review to all pension arrangements. The extension of the EDG's mandate was related to ongoing policy debates on the adequacy of pension plans, including fiscal sustainability of social security instituted by governments, in times of demographic change.

11. The EDG process was broad in scope, for instance encompassing a review of accounting business practices, and dynamic in promoting extensive consultations. Over the three years' period, some 55 contributions have been posted on the EDG's website.[3] In September 2003, a straw poll questionnaire, which largely drew from the contributions to date, was circulated to potentially interested parties requesting their opinions on a large number of specific issues. Responses from 35 agencies and individuals were received on this questionnaire, and the results were posted in November 2003. In October 2003, the moderator made a presentation to the joint OECD Working Party on Financial Statistics and the OECD National Accounts Experts meeting. The moderator posted an extensive report on the website on December 2003. The EDG moderator presented an interim report to the ISWGNA and its Advisory Expert Group (AEG) during its February 2004 meeting in Washington D.C. An overview of these findings had been presented earlier in the month to the OECD Senior Budget Officers (SBO) in Paris.

12. The canvas indicated nearly unanimous support for treating unfunded employers' schemes equally to funded schemes, and a broad-based support for the other recommendations reflected in this Issues paper. Unanimous support was also received from the indicated October 2003 OECD meeting. No objection was raised at the February 2004 SBO meeting. The February 2004 ISWGNA/AEG meeting concurred in delineating employers' pension from other security schemes, concluding, among other things, that:

- "The principle of recording a liability for unfunded schemes and the principle of a sound actuarial basis for the value of the liability and for the "imputed" contributions was broadly welcomed, but subject to many caveats;" and

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[2] This paper draws heavily from the more comprehensive report of Philippe de Rougemont, as EDG moderator, posted on the website in December 2003.

[3] The EDG's documents are accessible at: http://www.imf.org/external/np/sta/ueps/index.htm.

- "There were concerns about whether national accountants value the government liability if the government is not already making these calculations. Similarly, national accountants could not do actuarial calculations for funded schemes unless company accountants do so. However, it is noted that the current development of public and private accounting standards is consistent with actuarial approach."

13. Recent contributions by F. Lequiller and Eurostat argue that the proposals of the Group should also cover social security schemes and also called for more time to study the implication of the present proposals.

14. Drawing on the broad support in delineating employers' schemes from other schemes, the EDG moderator limited its recommendations to employers' schemes. It should be noted that the *1993 SNA* also clearly distinguishes employer's schemes (agreements between individual employers and their employees, the benefits being linked to contributions) from social security schemes (par. 4.111).

II. Rationale for the EDG's proposals

A. Introduction

15. Schemes to provide old age pensions can take various forms, namely (a) social assistance, (b) social security, and (c) private schemes. The latter category can be further broken down between (c1) autonomous schemes, that is, involving institutional units separate from the supporting employers, (c2) schemes managed by employers themselves that maintain segregated reserves with respect to their future obligations, and (c3) schemes managed by employers themselves without segregating dedicated reserves (these schemes are referred to as "unfunded schemes" in the *1993 SNA*. Under the *1993 SNA*, the present value of future pensions is recognized on balance sheets for the funded private schemes only, that is, for the categories (c1) and (c2).

16. In several instances, the *1993 SNA* does not appear to adequately reflect the responsibilities that employers and government undertake by promising pensions to households. Specifically, the following issues can be mentioned:

- Promises to pay future pensions are recognized as assets and liabilities for funded employers' schemes, but not for the unfunded ones.

- The values that the *1993 SNA* records as "actual employers' social contributions" to defined benefit pension funds reflect amounts paid rather than the true cost to the employer of the pension entitlements (present value of additional pension promises) that staff accrue during the accounting period.

- Underfunding or overfunding of defined benefit employers' pension schemes is not portrayed as an obligation or a claim respectively of the employers supporting these schemes.

Based on the contributions received from many experts, the results of a straw poll conducted in September 2003, and discussions in various international statistical meetings, these issues are briefly discussed under the following three subheadings: the recognition of liability for old age pensions; application of actuarial norms in the income accounts; and the allocation of the net asset of pension schemes.

B. Recognition of promises to old age pensions as liabilities

17. The basic issue is that the *1993 SNA* does not recognize obligations to pay future pensions as a financial asset when the obligations rest on an unfunded scheme, whereas it does so in case of funded schemes. In discussing this issue, it seemed appropriate to make a distinction between obligations of employers' schemes and obligations of government pension arrangements for the population.

Employer's schemes (including schemes for government employees)

18. Concerning employers' schemes, the EDG saw strong arguments to change the current guidelines. First, from a conceptual point of view it is clear that pensions provided by all employers' schemes are deferred compensation for work done; this also is implicitly recognized in the current system that clearly delineates employers' schemes from other social insurance schemes (*1993 SNA* par. 4.11). Secondly, the *GFSM 2001* recognizes government employers' pension obligations as liabilities whether or not this involves a funded scheme. Thirdly, leading business standards[4] require recognition of all employers' enforceable legal or constructive obligations[5] as liabilities. It would be strange if the *1993 SNA* would not recognize a liability that economic agents themselves record as such in their accounts.

19. The EDG found unanimous support for the proposal to recognize the pension obligations of unfunded employers' schemes as liabilities of employers and assets of

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[4] International Accounting Standard IAS 19, Financial Accounting Standard FAS 87 (US), Financial Reporting Standard FRS 17 (UK).

[5] Constructive obligations are, according to the International Accounting Standard Board (IASB), obligations that derive from an enterprise's actions where: (a) By an established pattern of past practice, published policies or a sufficiently specific current statement, the enterprise has indicated to other parties that it will accept certain responsibilities; and (b) As a result, the enterprise has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

households. Valuation should follow actuarial methods, as already prescribed with respect to the balance sheet item “net equity of households in pension funds” in the *1993 SNA*.

Government pension arrangements for the population

20. The *1993 SNA* treats social assistance and social security largely as redistribution activities of government rather than as a social form of insurance. As such, the value of these schemes’ future pension obligations is not recognized as liabilities.

21. There are, however, a number of arguments that indicate the desirability to change the *1993 SNA* in this respect. First, the economic behavior of households is certainly influenced by expectations on receiving benefits once they answer the eligibility criteria, such as reaching a certain age. In the case of social security, these expectations are quite solidly based since premiums have been paid to secure entitlement to the benefits. While governments usually retain the right to change unilaterally social assistance and security conditions, political pressures may be very high not to affect established “rights.” Secondly, in the light of changing demographic structures of the population, governments have an interest assuring that instabilities in pay-as-you-go systems are adequately matched by savings. For this purpose, they need to know the present value of their future obligations. Thirdly, in some countries social security is at least partially funded, which brings them even closer to recognizing the individual rights of participating households on future benefits. Finally, over the last decade privatization and other types of innovation often blurred the distinction between social security and other social insurance, making it highly desirable that statistics treat all types of schemes equally. This would avoid that marginal institutional differences have large consequences in key policy data.

22. On the other hand, several contributors reminded the EDG that some governments indeed unilaterally change social assistance and social security conditions. It also was pointed out that expectations on future benefits from these types of schemes do not answer all conditions of the *1993 SNA*’s definition of an economic asset.[6] In particular, it was noted that beneficiaries could not enforce ownership rights. In addition, the conditions of government pension arrangements for the population vary widely among countries and whereas many have pure pay-as-you-go (redistributive) features, others are partially funded. In view of the lack of unanimity regarding the most appropriate methodological approach, the EDG considered that it was too early to make concrete recommendations regarding the recognition of implicit liabilities of social security for the present *1993 SNA* update. Instead, it was suggested to consider alternative solutions, such as developing a separate manual for social security and generational accounting.

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[6] According to the *1993 SNA*, an economic asset is an entity functioning as a store of value: (a) over which ownership rights are enforced by institutional units, individually or collectively; and (b) from which economic benefits may be derived by its owner by holding it, or using it, over a period of time.

C. Application of actuarial norms in the income accounts

23. The argumentation used above that pensions provided by employers' schemes are deferred compensation of work done also has consequences with regard to the recording of flows. Employers' social contributions to pension schemes should reflect the amount of contributions that would be needed to secure the entitlements to the social benefits employees accumulate during the accounting period. This is, at least in principle, recognized in *1993 SNA* paragraph 8.72 that deals with unfunded schemes. However, regarding contributions that employers make to funded defined benefit schemes, the *SNA* records the amounts actually paid (on an accrual basis) rather than the amounts that would be needed to finance the build-up of the net equity of households on the funds.[7] This is an anomaly, in particular when the *1993 SNA* way of recording shows artificially low wage costs for those employers that underfund their pension scheme. The opposite situation can also occur. If an employer makes incidentally large payments to its pension scheme in order to make up for losses on the scheme's investments,[8] the current *SNA* records exaggerated values for compensation of employees.

24. There was broad consensus in the EDG that the revised *SNA* should accrue employers' social contributions according to actuarial standards. This seems the only sound way of properly accounting for these contributions and the required data are likely to be easily obtained from the schemes' administrators. Actual payments to the schemes are then simply booked as financial transactions (extinguishing a liability for employers' contributions earlier accrued, or prepaying employers' contributions that have not yet accrued).

25. The EDG also agreed by a wide margin that the actuarial approach should equally be applied to property income attributed to policy holders of defined benefit schemes. This income would then be based on the discount rate used by actuaries, making it equal to the amount by which the stock of pension obligations increases owing to the time passing (exclusive of all other events).[9] The net present value of defined pension benefits grows the closer the employee is to retirement age (because the discount period becomes shorter). Currently, the *1993 SNA* classifies this increase in value as an "other economic flow" instead of property income. The proposal removes this anomaly.

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[7] The problem does not occur for defined contribution schemes because these do not determine the net equity of households on an actuarial basis. Contributions to defined contribution schemes should continue to be recorded as the amounts paid in (on accrual basis with respect to timing).

[8] These payments are sometimes referred to as supercontributions related to recapitalization.

[9] This treatment is analogue to the way the *1993 SNA* determines interest accrual on zero coupon bonds.

D. Allocation of the net assets of employers' pension schemes

26. Defined benefit schemes may be underfunded or overfunded, that is, the available reserves may fall short or exceed the actuarial value of the future pension obligations. This state of affairs may be caused by inappropriately set contributions, unexpected returns on the reserves, or holding gains and losses on the reserves. In principle, there are three options to deal with under (over)funding: it may be seen as a shortfall (overpayment) of employers' contributions, a shortfall (overpayment) of employee contributions, or treated as a negative (positive) net worth of the pension schemes themselves. The *1993 SNA* allows the third option, which, in the opinion of the EDG, is an unfortunate situation.

27. Even though employees may also make contributions towards employers' schemes, the EDG considered that employers bear the ultimate responsibly for the sound functioning of the schemes they support. The underfunding of an employers' scheme should therefore be shown as a remaining liability of the employer to the scheme; an overfunding should be shown as a financial claim of the employer on the scheme. This way of recording conforms to generally accepted accounting principles and the observable trend in standards to favor immediate recognition of the employer's liability.[10]

III. RECOMMENDATIONS AND THEIR IMPLICATIONS FOR THE SNA

28. On the basis of the contributions received from many experts, the results of a straw poll conducted in September 2003, and discussions in various international statistical meetings, **the EDG recommends the following**:

- Treat unfunded employers' pension schemes identically to funded employers' pension schemes;

- For all defined benefit employers' pension schemes, use actuarial valuations to measure (i) employers' social contributions and (ii) property income attributed to insurance policy holders;

- Allocate the net assets of defined benefit employers' pension schemes to the sponsoring employers.

29. Treating unfunded employers' schemes the same way as funded schemes implies a significant change to the *1993 SNA*. In practice, the effects will be particularly important for government, as many unfunded schemes have been set up by government agencies for the

[10] The existing option of delayed recognition under *International Accounting Standard* (*IAS*) *19* is under review. Immediate recognition is prescribed under the UK's *Financial Reporting Standard (FRS) 17* rules, one of the most advanced standards.

benefit of their employees.[11] The change will be most obvious in the balance sheets where the net value of promised future pensions appears as a liability. The net impact on the cost of labor may be positive or negative. However, the current demographic conditions in many countries will likely result in showing higher labor costs.

30. Further, as a consequence of the recognition of assets and liabilities of unfunded schemes, the accounts should show a property income that employers pay in return for having the use of the employees' net equity in the unfunded schemes. In turn, this property income will be recorded as flowing back from households to the schemes in the form of contribution supplements.

31. The recommendation to use actuarial valuations changes the accrual of employers' social contributions and property income attributed to insurance policy holders. Actual payments that employers make to pension schemes would be treated as pure financial transactions. This recommendation impacts only on defined benefit employers' pension schemes. By their character, the obligations of defined contribution schemes are determined by the amounts actually paid and received by the pension schemes.

32. The recommendation to allocate the net assets of defined benefit employers' pension schemes to the employers changes the *1993 SNA* by setting the net worth of *all* employers' pension schemes at zero by definition. Previously this was only true for the defined contribution plans; the recommendation makes it also applicable for defined benefit plans.

33. The proposed changes largely reflect existing accounting practices in both private and public sectors and clear trends in accounting standards. Examples of the latter are the work done by the International Accounting Standards Board (IASB) and the International Public Sector Accounting Standards, which are being implemented by the Public Sector Committee of the International Federation of Accountants (IFAC).[12] National standards also increasingly prescribe recognition of unfunded pension liabilities.[13] In many of these standards, actuarial amounts are used to measure the "current service cost" to business (i.e., labor cost), while the (actuarially based) property income on pension liabilities is often also to be reported. In many cases, both items are therefore observable in the books of the employers. In addition, the pension funds' own accounts should be able to provide the required information. Quite

[11] François Lequiller and Phillipe de Rougemont estimated that the structural increase in the overall deficit figure was between 0.5% and 2% depending on the country and the discount rate used.

[12] IAS 19 has been identified as providing appropriate guidance in relation to the immediate recognition of employer pensions (i.e., civil service schemes).

[13] Such as the United Kingdom's Financial Reporting Standard (FRS) 17, which prescribes the immediate recognition of pension liabilities starting in 2005.

separately, stricter guidelines on transparency and fiscal sustainability require nowadays that governments make an effort to account for their unfunded employer schemes' obligations.

IV. Illustration of the Impact of the Proposed Change on an Unfunded General Government Employer Scheme

34. This section presents a numerical example to illustrate the impact of the proposed change on an unfunded employer pension scheme set up by general government for its employees. Table 1 depicts the entries made following current *SNA* recommendations; Table II shows how the data would work out under the EDG's recommendations.

Current *1993 SNA*

35. Presume that the government accounts show 14 as imputed social contributions (D122) as part of compensation of employees.[14] Government receives 1.5 as employee contributions (D6112) to the scheme. In its function of manager of the scheme, government also is shown to receive 14 as rerouted employer contributions (D612) from households. It pays 11 in pensions (D62). The resulting net lending /borrowing (surplus/deficit) is -9.5, which equal to the net disbursement in cash (F2).

Proposed recording in the *1993 SNA Rev. 1*

36. The EDG recommends treating unfunded employers pension schemes as if they were funded. This requires entries which are quite similar to those of a saving scheme, with social contributions adding to the savings (net equity of households in pension funds) and pension payments drawing these down. The only additional data needed refer to property income payable on the net equity of households in pension funds, here supposed to be 6.

[14] As indicated in paragraph 23 of this document, the *1993 SNA* recommends that employers' social contributions to schemes should reflect the amount of contributions that would be needed to secure the entitlements to the social benefits employees accumulate during the accounting period. We have supposed here that this principle is implemented. *SNA* paragraph 8.73 mentions that, when actuarial data are not available, the only practical alternative may be to estimate the employers' contribution on the unfunded benefits paid in the accounting period. The estimate would then be 9.5 (11 pensions minus 1.5 employee contributions). Government net lending is not affected by the estimation method, as the imputed payment (D122) to employees is exactly matched by an imputed receipt (D612) from the employees. However, compensation of employees and government final consumption expenditure are.

Table I. General Government Unfunded Employee Scheme: *1993 SNA* Recording

	Imputed flows are in italics	General government		Households	
		Uses	**Resources**	**Uses**	**Resources**
D122	*Imputed employers contributions*	*14*			*14*
D6112	Employees' social contributions		1.5	1.5	
D612	*Imputed social contributions*		*14*	*14*	
D62	Social benefits (pensions)	11			11
B9A	**Net lending/ net borrowing**	**-9.5**		**9.5**	
	Financial accounts	**Δ Assets**	**Δ Liabilities**	**Δ Assets**	**Δ Liabilities**
AF2	Cash	-9.5		9.5	

Table II. General Government Unfunded Employee Scheme: Proposed Recording

	Imputed flows are in italics	General government		Households	
		Uses	**Resources**	**Uses**	**Resources**
D122	*Imputed employer contributions*	*14*			*14*
D6112	Employees' social contributions		7.5 (1.5+*6*)	7.5 (1.5+*6*)	
D612	*Imputed social contributions*		*14*	*14*	
D62	Social benefits (pensions)	11			11
D44	*Property income attributed to insurance policy holders*	*6*			*6*
D8	*Adjustment for change in net equity in pension funds*	*10.5 (1.5+20-11)*			*10.5 (1.5+20-11)*
B9A	**Net lending/ net borrowing**	**-20**		**20**	
	Financial accounts	**Δ Assets**	**Δ Liabilities**	**Δ Assets**	**Δ Liabilities**
AF2	Cash	-9.5		9.5	
AF612	*Net equity of households in pension funds*		*10.5 (7.5+14-11)*	*10.5 (7.5+14-11)*	

37. The same amount as before on imputed social contributions (14) is recorded as part of compensation of employees and received back as imputed social contributions. However, employees' social contributions are now 6 higher due to the contribution supplements equal to the property income on their equity in the pension fund. In total, there is an addition to the net equity of 10.5 (7.5 and 14 in the form of contributions and -11 due to the payment of pensions). According to the EDG's proposal, this effect is neutralized in the current accounts by way of the "adjustment for the change in net equity in pension funds." In contrast to the current *SNA* guidelines, the net addition households make towards their net equity in the pension scheme is now treated as a *financial* transaction (AF612).

38. From the point of view of the employer, the recognized expense associated with an unfunded pension could be considerably different: in this example the government deficit changes from -9.5 to -20. This difference is partially caused by moving the net effect of social contributions received by government and pensions paid by government from the current account to the financial account. The impact of this change on the deficit could be positive or negative depending on the maturity of the scheme. However, the previously disregarded property income payable on the pension liability is always shown as an expense in the revised treatment.