

EDG position paper on employer retirement pension schemes

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List of Acronyms

<i>BPM5</i>	<i>Balance of Payment Manual 5th Edition</i>
<i>MFSM 2000</i>	<i>Monetary and Financial Statistics Manual (2000)</i>
COLA	Cost of living adjustment
CPC	Central Product Classification
EDG	Electronic Discussion Group
<i>ESA 1995</i>	<i>European System of Accounts 1995</i>
FAS	Financial Accounting Standard (USA)
FASB	Financial Accounting Standard Board (USA)
FRS	Financial Reporting Standard (UK) (formerly SSAP)
GAAP	Generally Agreed Accounting Practices
<i>GFSM 2001</i>	<i>Government Finance Statistics Manual 2001</i>
IAS	International Accounting Standard
IASB	International Accounting Standard Board
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standard (formerly IAS)
IMF	International Monetary Fund
IPSAS	International Public Sector Accounting Standard
ISIC	International Standard Industrial Classification of all Economic Activities
ISWGNA	Intersecretariat Working Group on National Accounts
NDC	Notional defined contribution (schemes)
OCV	Other changes in volume of assets
OECD	Organisation for Economic Co-operation and Development
PBGC	Pension Benefit Guaranty Corporation
PSC	Public Sector Committee
<i>1993 SNA</i>	<i>System of National Accounts 1993</i>
SPO	Social policy obligations (of government)
SPQ	Straw Poll Questionnaire
SSAP	Statement of standard accounting practices (UK)
STRGL	Statement of total recognized gains and losses
UN	United Nations
UITF	Urgent Issues Task Force (UK)

EXECUTIVE SUMMARY

Background

1. The Intersecretariat Working Group on National Accounts (ISWGNA) expects the Moderator of the Electronic Discussion Group (EDG) on pensions to issue by December 2003 a Report on proposed changes to the treatment of employer pension schemes in SNA.
2. This **first draft Position Paper** focuses on the recording of employer insurance retirement pension scheme. It sums up in a structured way the discussions carried out so far in the EDG as well as the answers to the Straw Poll Questionnaire (SPQ) related to this sole specific issue. The reader can refer to the Moderator Interim Report for an extensive description of all EDG activities and, in particular, for a summary of each EDG contributions.
3. This first draft will be further polished, later on, and may change substantially both in structure and in substance over the next three weeks. The first draft is designed to allow EDG participants and other experts to comment on it early on. This should allow the delivery of a Moderator Report by end December 2003, incorporating sufficiently expressed views.
4. The Paper discusses first the different interpretations of the terms “**funded**” and “**defined contributions plans**,” because the practice has showed such differences are a considerable impediment to exchanges of views.¹ However, they become less relevant under the new SNA recording that is suggested in the Paper.
5. The EDG paper does not recommend changes in relation to **defined contribution schemes**.

Liability recognition

6. The EDG recommends that the revised SNA should recognize obligations of employer pension schemes as liabilities if they are **legal obligations** or **constructive obligations**, whether or not the scheme is funded. The funded character (existence of legally segregated assets) is not a criterion for asset recognition of pension obligations (instead the criteria are: will they be a source of benefits? and are they enforceable at law?). Constructive obligations are recognized by accountants², as they are likely to be enforceable in court,

¹ It is suggested that funded should mean the existence of legally segregated economic assets (other than non saleable liabilities issued by the sponsor, i.e. the employer) and, tentatively, that defined contribution refers to an award formula.

² Constructive obligations are, according to the International Accounting Standard Board, 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

(continued)

while this may be conjectural. Restricting pension obligations to legal obligations is too narrow and may be less applicable in some countries or for some schemes (including civil servants’).

7. The recognition of constructive obligations can be restricted, by convention, to retirement pension employer schemes, using the current *1993 SNA* life/non life and employer/social security delineations. Those boundaries already impart in the *1993 SNA* very different recordings, and have proved solid.

8. It is an important consideration that the promised pension benefits of employer schemes are undeniably a part of compensation package, which must be appropriately reflected as part of compensation of employees.

9. It is unsound to differentiate recording amongst schemes according to the institutional character and the financing arrangement, as *SNA* does now. The employer has a liability whether it has funded its obligations (such as the amount borrowed to fund its obligations) or it has not (the liability is then direct). Such obligations arise both because of the service rendered to the employer or because the funds’ assets underperformed.

Allocation of defined benefit autonomous pension funds’ net assets to the employer/sponsor

10. With this perspective, the EDG recommends that the **net assets of defined benefit autonomous schemes be allocated to the employer**. This would have the advantage of equal treatment amongst schemes, enhanced international comparability, and full application of the *SNA*’s market valuation and accrual principles. Furthermore, it is in conformity with accepted accounting practices, although delayed recognition is currently an option under International Accounting Standard (IAS) 19 (albeit under review); under the UK’s FRS17, one of the most advanced standards, immediate recognition is prescribed.

Actual versus actuarial amounts

11. The EDG recommends that **employer social contributions and property income receivable by households** be measured using actuarial amounts instead of the current *SNA* measurement (largely actual amounts). With this change, funded and unfunded schemes would be recorded similarly. And, as important:

- a. The cost of employment would be more appropriately measured. Supercontributions originating from under-performance of defined benefits pension funds’ assets (recapitalization of funds) would not any more be part of compensation of employees and affect the gross operating surplus of the employer (or its value added when the employer is nonmarket). Actual payments of contributions would be seen as pure

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.

- financial transactions, being settlements of liabilities originally incurred through accrued employer social contributions and property income (income: transactions) or through underperformance of funds' assets (holding losses: revaluations).
- b. The property income receivable by households would be more correctly measured, on the basis of the discount rate used by actuaries. By analogy to zeros coupon bonds, the difference between amounts lent today (the contribution) and the repayments well into the future (the pension) is fundamentally of a property income nature (although its measurement is somewhat problematic, owing to the indexation character as well as to the uncertainty attached). This would remove the current *SNA* severe anomaly that the mere passing of time generates entries in "other economic flows" (other changes in assets) However, by implication, defined benefits schemes would now generate "savings" similar to mutual funds in the current *SNA*.
12. The EDG further recommends that *SNA* take full advantage of the sequence of flows and clarify the recording of change in liability outstanding owing to specific events. In particular, it recommends that (1) a change in **discount rate** be a revaluation; (2) a change in demographic **actuarial assumptions** be an Other economic flow (Other change in assets); (3) a **cost of living adjustment (COLA)** be income or a revaluation depending upon circumstances; (4) the **granting of additional rights** be income and (5) the **change in benefits structure** be an other change in volume, or income if there is an intention to convey a benefit (an asymmetric rule could possibly be applicable).

Dual recording

13. The EDG does not recommend eliminating the current *SNA* "**dual recording**"³, as it allows, though somewhat artificially, linking macroeconomic with microeconomic data. However, supplementary information in other datasets will be needed to allow bridging with *SNA* categories.

I. BACKGROUND

14. This draft describes the draft position of the EDG on the treatment of employer retirement pension schemes (social insurance). It is expected the Moderator of the EDG will issue, by December 2003 at the latest, a new Report including recommendations for changes to the 1993 *SNA* regarding employer retirement pension schemes⁴.

³ Where funded schemes' contributions and pensions are recorded both as non-financial transactions and as financial transactions, with an adjustment item.

⁴ The Moderator Interim Report was posted on the EDG on September 24, 2003. On October 7, 2003, the OECD National Accounts Meetings commented positively on indications of change regarding employer schemes based on the Interim Report and on preliminary answers to the Straw Poll Questionnaire.

15. This draft position paper builds on EDG contributions received so far, as well as on the answers to the Straw Poll Questionnaire (SPQ), circulated to various circles on September 17, 2003.⁵ 35 answers have been received, including 12 from the 28 EDG contributors.

16. The position paper focuses on the sole aspect of employer retirement scheme. It covers considerations on the current *1993 SNA* (part B) and on terminology issues (Part C), and suggestions for changes in the *1993 SNA* recording (Part D). A brief comparison with existing statistical manuals (Part E), a bridge to business accounting (Part F) and a numerical example (Part G) are provided.

17. The position paper does not elaborate on the exact definition of retirement pension⁶, which may be subject of further work. It does not consider the case of so-called “private schemes” other than employer schemes, which would be studied later.

II. CURRENT *1993 SNA* PRESCRIPTION

18. It is widely recognized that the *1993 SNA* prescribes recognizing employer retirement pension schemes promises or obligations as liabilities only when the scheme is funded. In the *1993 SNA*, a pension scheme is deemed funded when there exists “segregated reserves”; the pension scheme in question is then called a “pension fund”, which may be autonomous or nonautonomous. Autonomous pension funds are deemed to be institutional units, classified in the insurance corporations and pension funds sub-sector (S.125), whereas nonautonomous are ancillary units (i.e. assimilated to the employer).

19. Separately, pension schemes can be either of a defined benefits type or of a defined contributions type (called “money purchase” in the *1993 SNA*). The *1993 SNA* recording accordingly differs: the net worth of the former depends on the comparison between segregated assets and the pension liability calculated on an actuarial basis, while the net worth of the latter is always zero. The *1993 SNA* indicates that defined contributions schemes are always funded (SNA 13.88).

20. Social insurance schemes are arrangements where the beneficiary or policyholder (the household) is obliged or encouraged to insure, by the intervention of a third party, against social risks (see SNA Appendix IV). In the case of employer scheme, the third party, or “sponsor”, is by definition the employer. The sponsor is not necessarily the same as the organizer or the manager of the scheme or the entity that supports the liabilities and holds the assets. That the obligation to ensure may derive by law or from an industry wide arrangement does not change the fact that the obligation originates from the employment contract. The sponsor is also the entity that retains the residual risk under a defined benefit plan.

⁵ A document reporting on the answers to the SPQ is available on the EDG.

⁶ SNA distinguishes amongst insurance between life and nonlife. It is simply assumed that pensions schemes are those schemes that fall into the life category and cover an old age “risk”. See notably SNA Annex IV.

III. TERMINOLOGY ISSUES

21. It has been observed that there is no accord, amongst the statistical community, on the exact meaning of terms such as “funded”, “reserves”, or even “defined contribution”, by a wide margin. This lack of agreement results from some loose wording of the *1993 SNA* and from its interaction with accounting or financial community’s common parlance. This disagreement prevents effectively enforcing the *1993 SNA* on an equal footing basis, but also proves in practice a considerable impediment to exchanges of views. Hence, the Position Paper starts with terminology issues, although under the proposed change in the *1993 SNA* recording, those issues would become largely secondary.

A. Funded—unfunded

Are “reserves” assets or liability entries?

22. *The Moderator concludes that the 1993 SNA or ESA 1995 funded/unfunded delineation can be interpreted in substantially different manners* (SPQ Question 6.1). The *1993 SNA* indicates that funded schemes are those that maintain “segregated reserves”. Some argue that “reserves” means economic assets accumulated by the pension fund (view 1). Others argue that “reserves” mean a liability entry in the own accounts of the schemes (view 2).⁷

23. The former reading corresponds to the common use of the term “funded” in the financial press, in the accounting literature and in many statistical circles. The latter reading corresponds to the meaning of “reserves” in the accounting literature (an entry on the liability side of the balance sheet akin to provisions, although, in accounting, “reserves” tend to be a segregation of “own funds” whilst “provisions” tend to be a segregation of “liabilities”) and to various *1993 SNA* statements that “reserves are held by households”.

24. The latter reading also corresponds more closely to the logic of the system insofar as the *1993 SNA* prescribes liability recognition only for funded cases: the recognition of an economic asset (held by households) would suppose that the two criteria of economic asset be met (the entity in question must be a source of future benefits and must be enforceable at law). In this context, the fact that some other economic assets are set aside to match the scheme’s commitments seems immaterial⁸. What counts is the commitment of the sponsor/employer as reflected in its own accounts. This reading seems to be closer to the *ESA 1995* perspective (ESA 5.101, as an example).

⁷ Sometimes “funded” is erroneously assimilated to the fact that the functioning of the scheme comprises “flows” of contributions from one party to another, or from one account to another. However, this feature would more indicate a “contributory” character of the scheme.

⁸ It is worth noting that the existence of segregated assets may be evidence of an underlying obligation enforceable at law. Under such circumstances, the existence of segregated assets may become a sufficient condition, instead of a necessary one.

Pension schemes invested in employer/sponsor's liabilities

25. Another consideration is the fact that by the pension fund may be obliged to hold its assets in the form of employer/sponsor's liabilities (bonds, shares).

26. Pension schemes may be invested in a variety of assets selected by a money manager whose duty is to maximize a return-to-risk performance (type 1). Pension schemes may be invested in the employer/sponsors' liabilities (bonds and shares) (type 1b)⁹. Pension schemes may not accumulate segregated assets, but the employer/sponsor recognizes a liability on its own balance sheet entry (by way of creating a "provision" or a "reserve") (type 2). Other pension schemes may have none of the above (type 3).

27. SNA 4.98 is widely interpreted as indicating that schemes whose segregated "reserves"/assets are invested in the liability of the employer/sponsor (type 1b)¹⁰ are nonautonomous pension funds (reading A), although some would argue that the paragraph was meant to mean that such schemes were unfunded (reading B). SNA 4.98 would hence indicate that the autonomous character of pension funds supposes not only that the four SNA criteria characterizing institutional units are met, but also that the fund's manager would have autonomy of decision regarding the management of the funds assets (which seems reasonable).

28. However, there is no difference between a situation where employer's liabilities, such as bonds or shares, are issued and assigned to the scheme (type 1b), and a situation where the employer directly records a liability entry in its books in recognition of its pension obligations (type 2). Both schemes uncover the same economic reality but are dressed up under two different legal or organizational set-ups. Hence a more logical interpretation of view 1 of funded is to interpret that species of type 1b are in fact unfunded. Both schemes show identical gross total assets and liabilities (statistical presentation) in all circumstances as internal links within an institutional unit are necessarily eliminated in a statistical presentation (though not necessarily in an accounting presentation)¹¹.

29. A scheme of type 1b could be invested in all types of instruments (employer/sponsor's liabilities) such as securities (shares or bonds), loans or deposits; this is not relevant. The ability or inability for the fund manager to exchange these assets against others is what is important. It is worth noting that view 2 of the funded definition reconciles better with the (logical) reading A of SNA 4.98 and the fact that the existence of instruments is immaterial, when those are not exchangeable. The consolidated presentation of the

⁹ It is assumed that in type 1b, the fund is required to stay invested in those sponsors' liabilities. Otherwise, if the fund is at liberty to onsell those, the transfer of such liabilities instead of cash is just a modality of funding, which bears no significance for the scheme's classification.

¹⁰ At least for non government employer schemes, the *1993 SNA* indicates.

¹¹ This elimination is not even a consolidation in a strict sense, as it takes place at the institutional unit level: non consolidated accounts and consolidated accounts for the institutional sub-sector will show the same amounts.

employer together with the pension scheme will be the same, whatever the circumstances (*Etats de la nature*).

30. By the same token, type 2 would be seen as “funded” under view 2 of the term. Canadian and Australian type 2 systems for civil servants are viewed as unfunded by the respective national statistical institutes, but are treated in their respective national accounts as funded (see respective EDG contributions): these national institutes consider this a *1993 SNA* deviation as well as an extension, while Eurostat may not necessarily see those recordings as deviations in the first place. As an example, the German system of “book reserve” for private employers is a type 2 and is viewed as funded.¹²

31. Hence, we can draw the following table describing whether a given scheme is funded according to: the view (1 or 2) of the “funded” meaning; the type (1, 1b, 2 or 3) of assets; and the reading (A and B) of SNA 4.98 :

Table 1	Type 1	Type 1b		Type 2	Type 3
		Reading A	Reading B		
View 1	Funded	Funded	Unfunded	Unfunded	Unfunded
View 2	Funded ¹³	Funded		Funded	Unfunded

32. Shaded cells, in Table 1, indicate where type 1b and 2 are classified identically, as it would be appropriate.

Segregation

33. The segregation of assets may be legally enforcing (i.e. the employer/sponsor *de facto* cannot liquidate the assets in question for its own use) or not. It may also be simply an accounting segregation or even an administrative segregation.

34. The *1993 SNA* is not specific on the issue. Many SPQ respondents agree that an accounting segregation is sufficient, while few agree an administrative segregation is. It seems that autonomous funds would achieve a legal segregation, but nonautonomous funds

¹² As book provisions are a rather specific German element, the Bundesbank has introduced in its financial accounts tables a separate line: "Claims from company pension commitments". These claims are defined benefit. There is a special insurance mechanism/institution, Pensionsversicherungsverein, to cover for the case of insolvency of the firm (for further details see the Bundesbank monthly report dated March 2001, pp. 45). In national accounts the change in claims of households are added to disposable income in order to compile saving.

¹³ Assuming the existence of assets indicates the recognition of a liability

not necessarily so. To the extent that the pension obligations and the asset backing them are separate entities, the recourse to the economic asset character of “insurance technical reserves” sheds no light on the type of segregation envisaged in the *1993 SNA*.

B. Defined contributions—defined benefits

35. *The Moderator considers that the defined contributions/defined benefits delineation can be interpreted in a substantially different manner.* The delineation can be seen:

- in relation to the way the benefits will be determined (award formula): defined contributions plans suppose that benefits are based on accumulated contributions plus a return that is either fixed¹⁴ or, if variable, that is not determined by the employer/sponsor, such as a market return (i.e. resulting from the performance of money managers) (view A); or
- in relation to whether the employer has retained a financial exposure of any sort to the employees: defined contribution plans suppose the employer disposed of all its financial exposure against households (view B).

36. View B is widely interpreted as preventing type 2 schemes of being defined contribution (SNA 13.88), whilst not preventing type 1b. However, again, there is no rationale to distinguish type 1b from type 2. Hence, this would suggest retaining view A, or amend view B.

37. SNA 13.79 directly refers to funds’ assets (instead of merely reserves). This may suggest that *1993 SNA* writers had more in mind view B. View B is the optic taken by IAS 19, the UK FRS 17 as well as the OECD taxonomy on pensions. FAS 87 seems more to espouse view A, along with the previous UK standard SSAP 24.

38. In the USA, Cash-balance systems are type 1 and involve a market return on contributions: the employee accounts accrue interest determined by reference to market rates. However, they are viewed by regulators as defined benefits, which allows them to be covered by the re-insurance provided by the US governmental agency (PBGC).

39. The two views A and B can be set identical if one would define the employer retained financial exposure as being other than the necessary financial exposure required to fund/finance its obligations on the market, in the first place.

40. This draft Position Paper takes the view that the defined contributions / defined benefits delineation refers to the way benefits are determined. Hence, pure types of notional

¹⁴ A fixed return necessarily supposes a promise to pay in future an amount that is fixed; this can in turn be used to estimate the present value of the flow in question using an appropriate discount rate. This amount need not be the nominal amount claimed to be contributed or transferred by the sponsor.

defined contribution schemes (NDC)¹⁵ can be contribution defined, as long as a fixed return or a return determined by another party than the employer/sponsor (such as a market return) is irrevocably used (SPQ question 8.2). This question will be further examined by the EDG during 2004.

C. EDG conclusions on terminology for the future SNA (and in this Paper)

41. For the future SNA, the EDG recommends the term **funded** should be brought closer to the meaning retained in the business community: it should unequivocally mean that economic assets are segregated. This segregation must be enforced by a legal mechanism. **These are both clarification of the 1993 SNA.** The EDG recommends banning the term “reserve”, unless it is clearly explained what this mean.

42. For the future SNA, the EDG will explore whether or not recommending the term **defined contribution** plans should refer to an award formula: all plans where benefits are determined by contributions and a return on those that is either fixed or, if variable, that is not determined by the employer/sponsor, such as a market return. **This would be a change (clarification) of the 1993 SNA.** They cover true NDC schemes. A defined contribution scheme may be unfunded, hence. **This would be a change of the 1993 SNA.** In the meantime, the moderator will follow this terminology in the rest of this Report.

43. For the future SNA, the EDG recommends schemes obligated to invest in employer/sponsor’s liabilities not to be considered funded. **This is a change (clarification) of the 1993 SNA.** Where they are defined contributions, then they are similar to NDC.

44. For the future SNA, the EDG recommends **underfunded** (**overfunded**) schemes be defined as schemes where the market value of economic assets are below (above) the amount of pension liabilities. **This is unchanged from the 1993 SNA.** Economic assets exclude employer/sponsors’ liabilities which must be held by the scheme/fund (and do not result from the own choice of the fund’s manager).

45. For the future SNA, the EDG recommends schemes operating with (deliberately) insufficient funding of the callable contributions (due to work done) to be called **partially funded**. **This is a clarification of the 1993 SNA.** Partially funded schemes can be overfunded or underfunded at any point in time¹⁶. The first delineation is a classification of schemes by type of funding policy, the second delineation is by type of observed net worth.

¹⁵ Notional Defined Contribution schemes involve an award formula based on contributions and a return, while no scheme’s segregated economic asset exists. In some alleged NDC schemes, the return is variable and is (conveniently) determined by the sponsor: these are improperly called NDC. NDC schemes have typically appeared created in the context of social security reform. There is no reason for employer schemes not to use this method (although they may need reinsurance).

¹⁶ Partially funded schemes will generally be underfunded although they occasionally become overfunded when assets considerably over perform expectations.

IV. RECORDING ISSUES IN THE NEW SNA

46. *The EDG nearly unanimously recommends recognizing all employer retirement pension obligations as liabilities, whether funded or unfunded, and to change the way transactions are recorded. **These are changes of the 1993 SNA.***

47. In practice those changes are only applicable to defined benefits plans. *At this stage, the EDG recommends no change to the way SNA records defined contribution plans. **This is unchanged from the 1993 SNA.*** The EDG notes that such plans function like mutual funds, more so than life contract, with the difference that there is an additional compulsory element. Any change in treatment would need to be analyzed in the context of the SNA recording of mutual funds and life insurance contracts.

A. Recognition of employer pension obligations as liabilities

Liability recognition

Recognition

48. *The EDG nearly unanimously recommends recognizing as liabilities, all promises made by employers to their employees and pensioners regarding retirement pensions, for all types of arrangements. **This is a change of the 1993 SNA.***

49. When pension promises are contractual engagements, they are expected or likely to be enforceable at law. In this case, they should be recognized as households' assets, irrespective of the facts that segregated schemes' assets exist or not, and of the fact that the employers' accountant may have recorded an associated liability entry in the employer's balance sheet or not. **This is a change of the 1993 SNA.** When pension promises are not explicit contractual engagements but are implicit, or when the enforceability at law of engagements has not been tested or established, or when the enforceability at law is uncertain, a liability must nonetheless be recorded, if a constructive obligation exists. GAAP's (Generally Agreed Accounting Practices) standards (including International Accounting Standards) are used to decide whether a constructive obligation exists. **This is a change (clarification?) of the 1993 SNA.**

50. Constructive obligations are, according to the International Accounting Standard Board, obligations that derive from an enterprise's actions where:

- 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
- As a result, the enterprise has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

51. *The EDG considers that when policyholders can transfer pension rights/entitlements from one scheme to another, involving a lumpsum payment from the departing scheme, or*

obtain their liquidation, *the economic asset character of the entity in question is indisputably established.*

52. In practice, it is likely that statisticians will have access to the needed source data in case the local accountant follows standards aligned on, or close to, international standards. There may be source data difficulties when the local accountant departs from those standards. However, to remediate this situation, usual statistical techniques ought to be put to work, such as exploiting per capita data for comparable schemes (employment structure) available elsewhere (SNA 8.72 second sentence).

Recognition boundary

53. At this stage, it is proposed that asset recognition of constructive obligations be restricted, by convention¹⁷, to old age employer schemes, i.e. to arrangements with a “life insurance” character (see SNA Appendix IV) other than social security/assistance.

Counterpart institutional sector

54. The household’s asset is a liability of the institutional unit consisting of the employer and the scheme when the fund is non-autonomous (**this is unchanged from the current SNA**) or when the scheme is unfunded. It is a liability of the autonomous fund (**this is unchanged from the current SNA**), while the institutional unit comprised by the employer recognizes the excess of pension obligations over fund assets as a liability (or as an asset).

Valuation of pension obligations

Actuarial valuation of stocks

55. *The EDG recommends that pension obligations be recorded using actuarial¹⁸ amounts/values for defined benefits schemes, and using existing assets¹⁹ for defined contributions schemes. **This is unchanged from the current SNA.***

56. The EDG notes that there exists a variety of actuarial methods. It sees merit in recommending a preferred one, but also recognizes the usefulness for flexibility where statisticians obtain actuarial based source data using other method that are sufficiently close.

¹⁷ It is worth noting that many conventions of treatment already exist in the *1993 SNA*:

- Life insurance is treated differently from non-life insurance.
- Funded employer schemes are treated differently from unfunded employer schemes.
- Funded social security schemes are treated differently from funded employer schemes.

¹⁸ Actuarial amounts are stocks, calculated by actuaries, and associated flows, calculated by actuaries or by accountants, using mortality tables and all other necessary hypotheses provided by actuaries.

¹⁹ or bookkeeping entries.

57. The EDG recommends that the reviewed SNA indicate a preference for using *accrued benefits methods*. Prospective benefits methods are inappropriate, as they also relate to future period of work, and future contributions are not recognized as assets. **This is a clarification of SNA.**²⁰ However, the discounted forecasted benefits should reflect future increases in salaries and pensions, at a minimum for general inflation. The EDG recommends that the SNA would advise that the *projected unit method*, towards which accounting standards seem to be converging at the moment, is an appropriate method. The *projected unit method* has the characteristic of spreading more evenly across time the cost of pension arising from many schemes. This is because in many defined benefit schemes, end of carrier promotions tend to have disproportionate effects on the final annuity; the *projected unit method* tends to spread those amounts over the whole carrier.

Actuarial valuation methods

58. According to the former UK accounting standard, SSAP 24:

- a. “*Accrued benefits* are the benefits for service up to a given point in time, whether the rights to the benefits are vested or not. They may be calculated in relation to current earnings or projected final earnings” (para 56).
- b. “The *accrued benefits method* of actuarial valuation is a valuation method in which the actuarial value of liabilities relate at a given date to:
 - i. The benefits, including future increases promised by the rules, for the current and deferred pensioners and their dependants; and
 - ii. The benefits which the member assumed to be in service on the given date will receive for service up to that given date.

Allowance may be made for expected increases in earnings after the given date, and/or for additional pension increases not promised by the rules. The given date may be a current or future date. The further into the future the adopted date lies, the closer the results will be to those of a prospective benefits valuation method.” (para 57).

- c. “A *prospective benefits method* of valuation is a valuation method in which the actuarial value of liabilities relates to:
 - i. The benefits for current and deferred pensioners and their dependants, allowing where appropriate for future pension increases; and
 - ii. The benefits that active members will receive in respect of both past and future service, allowing for future increases in earning up to their assumed exit dates, and where appropriate for pension increases thereafter.” (para 71).

²⁰ Another way to look at it is simply to observe that, since SNA follows a market valuation, the present value of future contributions receivable should be exactly equal to the present value of additional benefits payable (under the prospective benefits method): if the latter are presented net of the former on the balance sheet, one obtain the same result as with the projected unit method.

59. According to the current UK accounting standard FRS 17 (para 2), the “*projected unit method*” is an accrued benefits valuation method in which the scheme liability makes allowances for projected earnings. An accrued benefits valuation method is a valuation method in which the scheme liabilities at the valuation date relate to:

- a. The benefits for pensioners and deferred pensioners (i.e. individuals who have ceased to be active members but are entitled to benefits payable at a later stage) and their dependants, allowing where appropriate for future increases, and
- b. The accrued benefits for members in service on the valuation date.

The accrued benefits are the benefits for service up to a given point in time, whether vested rights or not.”

Allocation of autonomous defined benefits schemes’ net assets to the employer/sponsor

60. *The EDG recommends, by a wide margin, allocating the pension scheme’s net assets to the employer/sponsor (this is de facto only applicable to defined benefits autonomous schemes)²¹: when the scheme is underfunded, the employer/sponsor has a liability; when the scheme is overfunded the employer/sponsor has (generally) an asset.²² This is a change of the 1993 SNA.*

61. *Pension funds would have by construction zero net worth for both defined benefits schemes (this is a change of the 1993 SNA) and defined contributions schemes (this is unchanged from the 1993 SNA).*

62. *The instrument used for this allocation would be a type of insurance technical reserves (AF.6), taken to be AF.619 in the rest of this Position Paper, to identify it. This is a change of the 1993 SNA.*

63. Not allocating the net assets to the employer/sponsor creates an unhealthy asymmetry in recording between schemes, which should be corrected. Employers have currently the ability to artificially improve their 1993 SNA net worth, by creating autonomous funds and partially funding them or leaving them underfunded. Their net worth also depends upon the autonomous versus nonautonomous character of the funds in question, which seems somewhat another anomaly.

64. In addition, such an allocation seems necessary to uphold the accrual principle as well as the market value principle. An underfunded position (as an example) can accrue because:

- the employer has provided systematically insufficient contributions related to the current service cost (additional rights accumulated due to the period worked); or

²¹ The net asset is *de facto* already recorded in the books of the employer in 1993 SNA when the scheme is unfunded or a non-autonomous fund. Furthermore, defined contribution schemes have by definition zero net assets (net worth).

²² Further detailing on the conditions for the sponsor’s asset to exist may be necessary.

- the fund assets has performed badly²³, the return on assets being below the cost of its pension obligations (see below).

65. The accrual principle suggests that contributions must not be measured by the cash provided to the fund during the period, but by the amount that the employer ought to provide corresponding to the value required to purchase the promised additional pension rights from the market, or as notified by the pension fund's actuary. This approach is also required to appropriately measure the cost of employment— including additional largesses regarding current employees—with an implication on value added (GDP) when the employer is a nonmarket producer, and an implication on the gross operating surplus when the employer is a market producer.

66. The accrual principle and the market valuation principle suggest recognizing immediately the additional obligations to the schemes arising from poor performance of scheme's assets during the period, instead of delaying it. This approach is also required for transparency reasons and notably to explain the behavior of the price of shares in companies whose pension schemes' underfunding position deteriorates rapidly due to poor asset performance. Hence, the non allocation to the employer/sponsor tends to make the *1993 SNA* net worth of the employer/sponsor different and much more volatile than it should be, with the risk to impair the analytical usefulness of SNA balance sheets.

B. Recording of employer contributions

Actuarial amounts

67. *The EDG recommends by a wide margin valuing employer contributions using actuarial amounts²⁴, as part of compensation of employees (D.1), in all cases, instead of actual amounts paid. This is a change of the 1993 SNA.*

68. The *1993 SNA* recognizes the use of “the same kind of actuarial considerations that determine the levels of premium charged by insurance enterprises” for valuing imputed employer contributions, i.e. for unfunded schemes (SNA 8.72). But it thereafter provides a waiver to statisticians (SNA 8.73). Hence, it can be argued that the EDG proposal above merely generalizes the guidance of SNA 8.72 to all retirement pension schemes.

69. The counterpart entry to D.1 is a transaction in financial liabilities (F.619)²⁵. In compliance with the accrual principle, at time of payment to the scheme, settled amounts are

²³ Either because all or most assets of the economy performed badly, or either because the manager of the fund underperformed.

²⁴ The amounts in question should not be confused or assimilated with the amounts of funding called, for the period, by the fund trustees on advice from actuaries.

²⁵ or reduction in financial assets when the scheme is overfunded.

simply booked as a financial transaction (F.2 against F.619).²⁶ Lump sums paid to recapitalize underfunded schemes are hence financial transactions, presumably in settlement of a prior recording of a holding loss on the instrument AF.619, as is appropriate: this is not a cost of employment but a cost related to an unexpected (past) underperformance of assets. Such lump sums are to be distinguished from the lump sums to schemes as counterpart of the granting of additional pension rights to policy holders (see below) (ESA 4.165i. and ESA Annex III para 20 tend to confuse the two).

70. Such a recommendation would prevent that observed episodes of contribution “holidays”, where employers are being granted waivers on the payment of contributions due to consistent overperformance of scheme’s assets, translate into anomalous reductions of compensation of employees. Instead such “holidays” are recorded in the system as part of holding gains on liabilities: social contributions payable are booked (but not paid), but the accumulation of “contribution arrears” (so to speak) is continuously being cancelled by holding gains on the employer/sponsor’s net exposure to the pension fund.²⁷

71. In practice, this information is part of the business accounting cost of employment (current service cost—see below part VI). Where this information is not readily available, the amount in question can be compiled using coefficients used for past periods or being used for the current period by other employers whose pension scheme’s features are reasonably close. In practice, contribution rates are relatively smooth, and should not exhibit large swings.

Actual or imputed

72. *The EDG recommends that employer contributions related to employer defined benefits pension schemes be booked as imputed for the full amount (this is a change of the 1993 SNA) while those related to funded defined contribution schemes would be actual social contributions. Owing to the importance of imputed pension contributions, it is suggested to identify in the accounts those relevant amounts:*

D.1211 Employers’ actual (retirement) pension contributions

D.1221 Employers’ imputed pension contributions

This is a change of the 1993 SNA.

73. Another option would be to book, as imputed social contributions, the sole difference between the actuarial and the actual amounts (positive or negative).

²⁶ This is a type of other receivable/payable (AF.7). However, it is useful to follow here the option taken, in the 1993 SNA, for non life insurance where prepayment and provisions for litigious settlements are booked under the insurance technical reserve itself (AF.62).

²⁷ Or, alternatively, the social contributions payable that are booked translate into a reduction of the asset of the sponsor that appeared in past periods from holding gains on the sponsor’s net exposure to the pension fund.

C. Employee contributions

74. *The EDG (unanimously) recommends recording employee contributions using the amounts payable (inclusive of the contribution supplement—see below). This is unchanged from the 1993 SNA.* The time of recording would be the time when the pension rights are recognized, irrespective of the time of actual payment, as appropriate, the difference being recorded in other receivable/payable.

D. Property income

Actuarial amount

75. *The EDG, by a wide margin, recommends recording a property income to policyholders/households on defined benefits plans equal to the discount rate used by actuaries times the stock of pension obligations. This is a change of the 1993 SNA.*

76. This amount is exactly equal to the amount by which the stock of pension obligations increases owing to the time passing (exclusive from all other events). This increase is due to the fact that, after one period, the projected cash outflows for pensions are discounted one period less.

77. This recording recognizes that contributions paid today are merely the present value of the promised cash flows to which the policyholder/household is entitled to, in the distant future. The difference between the present value and the future flows is in the nature of a property income that ought to be accrued over the length of the contract, similar to a zero coupon bond. The fact that the amount promised is not fixed but is indexed does not change the nature of the property income in question, but does change its valuation—in theory and in practice.

78. Currently, in the *1993 SNA*, the property income payable by the pension fund to households is by convention set equal to the property income receivable by the pension funds on its assets (such as interest on bonds and dividends on shares). The *1993 SNA* current treatment leads to the apparition in the accounts of an anomalous Other economic flow (Other change in assets) in *Insurance Technical Reserves* (generally positive) due to time passing, while it is unclear which price has fluctuated; this is a quite unsatisfactory outcome, which is removed under the EDG recommendation.

79. *The EDG recognizes that this new recording will create a new situation where defined benefits plans will generate savings, which some consider an unwelcome feature for a collective investment schemes. This is a change of the 1993 SNA. The EDG sees no reasonable way to avoid it.* Two other options are rejected:

- Allocating the difference in property income on the funds' assets would be quite shocking, and would not be in line with the debtor principle; and
- Allocating the difference in property income to the employer/sponsor has the inconvenience of generating substantial property income flows between the fund and

the employer/sponsor only loosely related to the employer/sponsor's net position against the pension fund, with even a possibility that the employer/sponsor may pay a property income on an asset (overfunded position), which is not reasonable (see next paragraph).

80. The *EDG* however recommends by a narrow majority that the employer (*i.e.* the employer/sponsor) pay or receive a property income on the net position it has against the pension fund (applicable only to autonomous funds), based on the discount rate used by the scheme. This property income would possibly be classifiable under D.41 Interest. **This is a change of the 1993 SNA.**

81. Some find this an unnecessary and artificial imputation. However, the Moderator believes this recommendation will not be difficult to implement (see next paragraph) and will allow reestablishing some neutrality for the measurement of the total property income (payable by the employer) between those employers that deliberately keep pension schemes underfunded and those that recapitalize, when necessary, their schemes by way of issuing debt instruments (which carry an explicit interest). It will also mitigate unduly negative saving positions for partially funded schemes. In addition, it is reasonable to expect that a newly created economic asset (AF.619) accrues property income. This recommendation may also be applied only for partially funded schemes.²⁸

82. In practice, the property income payable to policy holders will tend to be measured in business accounting (of the employer/sponsor) as part of the total cost of pension. Where it is not readily available, the use of a long term bond yield applied to the stock of pension obligations would provide a good estimation. The property income payable (or receivable) by the employer/sponsor to the pension fund (imputed) can easily be estimated, by prorating the calculated property income payable to policy holders/households, using the observed underfunded (overfunded) ratio.

Debtor versus creditor principles

83. The *EDG* considers that the recommendation to use actuaries' or accountants' measures for property income *need not be a departure from the debtor principle*, insofar as the basic tenet of actuarial estimations is that the future outflows under the contract are not precisely known and subject to change (in contrast to fixed rate bonds).

84. However, it would be plausible to recommend, in concept, a purer approach to the recording of property income on *insurance technical reserves*, where each periodic contribution would accrue a fixed rate of return (based on the discount rate of the period of contribution) until redemption (likely to be the retirement date). However, it is unlikely that source data would be available for such calculations.

²⁸ Note the analogy with swaps: the 1993 SNA does not record property income on the balance sheet value of swaps. However, one would wonder if off-market swaps (swaps with a market value at inception) ought not to be considered a loan plus a swap, the former accruing interest.

E. Dual recording

No suppression recommended

85. The EDG does not recommend the suppression of the dual recording. However, the 1993 SNA text should be improved, and further information on benefits and contributions should be provided by way of splitting the item D.8 into D.81: contributions, D.82: property income, D.83: pensions.²⁹

86. The EDG is very divided on the question of dual recording (recognizing simultaneously nonfinancial and financial transactions for contributions and for pensions, as well as an adjustment entry D.8). A majority of SPQ respondents leans towards abandoning it. However there is vocal minority with substantial arguments.

87. For some, the dual recording of pension contributions and benefits reflects ambiguity in, or misunderstanding of, the essential character of pensions, namely, that it is a mandatory investment plan with an insurance element. The IMF's *Government Finance Statistics Manual 2001 (GFSM 2001)* does not record pension contributions as government revenue or pension benefits as government expense; those are financial transactions (both the contribution, as part of compensation of employees, and the property income are government expenses, which lead to the appearance of a liability—*insurance technical reserves*). A consideration would be to remove the dual recording and have it as a memorandum item only.

88. The argument for keeping the dual recording rests on the idea that pensioners view pension flows as income (and perhaps some contributors perceive their contributions as expense). There is also a need to maintain a link between macro data and micro data, such as in income surveys, where pensions are considered as income. Some have argued that users do not understand the dual recording. This would call for clarifying the 1993 SNA text.

89. The link with other manuals would also need to be improved, with the provision of information related to pensions' contributions and benefits in the 1993 SNA, so to be able to obtain other contributions and benefits. Conversely, other manuals should show similar information³⁰.

Eligibility criteria for a Review

90. The Moderator feels that considering the current balance of arguments, he cannot yet recommend a change. He notes that it is also unclear as to whether the question is eligible for

²⁹ In case dual recording would be abandoned, a memo item should be provided in the accounts on contributions and benefits, and possibly some sub-classification of the transactions in insurance technical reserves F.6121, F.6122, F.6123.

³⁰ Within the financial accounts possibly.

a review, as it may not meet the criteria set by the UN Statistical Commission for proposed changes to the *1993 SNA*: this question has been hotly debated in previous SNA drafting, and it is questionable whether the situation changed to a point where a reopening is warranted.

91. Nonetheless, the Moderator observes that the proposed extension liability recognition will increase the domain of the dual recording, which could be ascribed as a sufficiently important change in circumstances. At the same time, international comparison of distributed social benefits may be distorted if employer schemes and social security schemes were to be recorded radically differently.

Contribution supplement

92. There is a question as to whether the property income receivable by households should be routed as social contributions (“contribution supplement”) with an impact on D.8 (as in current SNA), or whether those should be exclusively shown as financial transactions (this would be a change in SNA).

F. Pension funds’ output

Extension

93. *The EDG recommends extending output to nonautonomous pension funds and unfunded schemes. This is a change of the 1993 SNA.*

94. The activity of autonomous pension schemes/funds is financial intermediation (ISIC category J, Division 66), the output is financial intermediation services (CPC – Division 81). Pension funds engage into financial intermediation by way of pooling assets, as they incur liabilities for the purpose of acquiring assets. By doing so, they transform or repackage (in terms of credit risk, maturity, liquidity, legal characteristics) the funds channeled from lenders to borrowers. This is true for defined benefit plans as well as for defined contribution plans. The fact that in the latter, similar to mutual funds, the “shareholder” is indistinguishable from the “lender” is not cause enough to renege the financial intermediation character of their activities. Defined contribution funds resemble mutual funds and there may be a case to group the two under a same category of activity (instead of under ISIC 65 and 66 respectively). The output of contribution defined plans and mutual funds is directly measured (i.e. the commission perceived). It is consumed by the household while the mutual fund unit purchases the same amount from the mutual fund manager (which belongs to the financial auxiliaries sub-sector—S.124).

95. There seems little justification for not recognizing a secondary activity for nonautonomous schemes, keeping those activities ancillaries. A same conceptual position may be taken for unfunded schemes. The output is deemed to be purchased by the policyholder (and not by the employer/sponsor). The recording of a secondary output appropriately recognizes that the service is provided to the households (the employee), not to the employer—in a similar way, the system already recognizes that it is the employee that contributes to the pension fund, not the employer. Therefore, in this instance, the proposed

recognition of such activity is not tantamount to the recognition of all auxiliary activities (which would be problematic). However this nonetheless supposes accepting that financial services (insurance) could be a secondary activity of institutional units not classified in the S.125 subsector.

96. In practice, unfunded schemes may not allow for an easy measuring of output, and compilers may resort to using coefficient observable for other schemes, or to neglect recording where amounts are not significant.

Holding gains/losses

97. *The EDG recommends by a small majority not to include holding gains and losses in the measure of output. This is unchanged from the current SNA.* The EDG considers that, in concept, the current SNA guidance is clear and satisfactory: the excess of contributions (inclusive of “contribution supplements”³¹), net of pensions paid during the period, over the changes in insurance technical reserves due to transactions, is positive and is viewed as a fee collected by the scheme for its management.

98. The Moderator considers that the recommendation to measure property income using actuarial estimates for defined benefit schemes is not akin to incorporating holding gains on pension scheme’s assets within income, because, for such schemes, the liability to policyholders/households is independent from the accumulated assets, both in terms of property income, holding gains and losses or total return.

99. The EDG however recognizes that, in practice, observed changes in insurance technical reserves incorporate all sorts of elements. It may be difficult for compilers to adequately delineate revaluations, other changes in volume and transactions.

G. Recording of events

100. The *1993 SNA* is silent on the recording of many events that are important in practice to pension funds. Not surprisingly, SPQ respondents tend to be divided as to the adequate recording. This part is designed to promote clarifications of these questions.

101. At this stage, the write-up of this part is very tentative. The Moderator believes the EDG will be obligated to satisfactorily address those questions, even though they may be more conceptual than practical issues. It is possible that a common EDG position will not be reached by December 2003 and that recommendations may be issued only in 2004.

Change in discount rate

102. *The EDG (unanimously?) recommends that changes in insurance technical reserves due to changes in discount rate be booked as revaluations. This is a clarification of the*

³¹ related to property income payable to policy holders deemed to be distributed and reinvested.

1993 SNA. This is akin to changes in prices of bonds due to changes in market yields. The change in balance sheet is not income. However, the flow of property income (and of social contribution/compensation of employee) thereafter is affected, as a new discount rate is used.

Cost of living adjustment (COLA)

103. *The EDG leans toward recommending that the impact of COLA clauses be recorded as property income when a real discount rate is used—similar to indexed instrument on Consumer Price Index—and be recorded as revaluations when a nominal discount rate is used, at least for the part related to changes in inflation expectations. Those are changes/clarification to the 1993 SNA.*

104. There may be a variety of COLA clauses and it is not completely certain if the many different types of such events ought to be treated similarly. COLA would refer to the fact that pension arrangements foresee the indexation on a price index (consumer price) of pension payable today or/and all future flows. COLA need not change the actuarial value of outstanding obligations. If they do not, the event does not lead to recordings.

105. COLA will change the actuarial value of outstanding obligations if expected future cash flows (benefits) are changed by the actuary/accountant.

- If the discounting method uses a real discount rate, COLA is akin to a Consumer Price Indexing, and the event (change in valuation) is booked as a component of schemes' property income.
- If the discounting method uses a nominal discount rate, the change in obligations outstanding arises only if the realized prices change (inflation) for the current period and the forecasted inflation for future period differ from the previous forecast. It is suggested that:
 - by analogy with indexed securities, the impact due to the difference between the realized change in CPI and the previous forecast for the current period would be recorded as property income³²; and
 - by symmetry with the change in discount rate, other changes—related to changes in future inflation— be recorded as a revaluation.

The suggested distinction in the second case has the advantage of aligning the recording of property income with the first case. The return on the asset is similar to a CPI indexed bond, except that the way to calculate it is different: instead of adding an inflation component to a (predetermined) real coupon, one subtracts (adds) the surprise positive (negative) inflation component from (to) a (predetermined) nominal coupon. In contrast, future inflation is set freely by the actuary, but in close

³² An alternative position is to book this amount as a revaluation, as the difference between the realized inflation and the original expectation is of the nature of a revaluation.

association to the nominal discount rate: the actuary ought to justify the real discount rate being used.³³

Change in life expectations

106. *The EDG recommends that the changes in insurance technical reserves due to changes in life expectation assumptions and calculations by actuaries, using standard technique, be booked as an Other economic flow (Other change in asset), although it is [STILL] debated whether it is an Other change in volume or a revaluation. This is a change/clarification of the 1993 SNA.*

107. The event is not an interaction, as it occurs independently of the willingness of the schemes or of the employer/sponsor (as well as, so to speak, of the employees/pensioners).

108. Some members (including the moderator) consider the event a Revaluation, owing to the fact that the changes occur independently from all parties. In addition, the change in value of the asset (performance) is due to unexpected events, similar to changes in value of shares that reflect brisker business activities than expected, with higher volumes of sales and profits. SNA 12.53 third sentence may be interpreted as supporting this interpretation.

109. Some members consider the event an Other change in volume, because additional (or reduced) “volumes” of pension payments are expected, as the latter would continue during more years—reflecting for example, the issuance of a new set of approved actuarial tables which defines the number of years in which the pensioners can expect to receive benefits.

110. However, it is questionable whether there is appearance of new rights, while the pension scheme’s rules have not changed. It rather seems a reestimation of the value of existing rights within a scheme.

111. The delineation between revaluation and Other changes in volume is sometimes tenuous.

- Other changes in volume are events that are typically not expected in the sense that they are unlikely to occur, although individuals are aware of the possibility of their occurrence; while
- Revaluations refer to changes in values that are different from what was originally expected (the occurrence of the event itself is not surprising).

³³ Another way to look at it is to consider, assuming a higher inflation in the current and future periods, that cash flows will be higher in future because they start from a higher end of year base than previously expected (1st effect) and, then, the sequence of increases is, later on, also higher (2nd effect). The second effect results from the sole anticipation of the actuary and can be neutralized by selecting a discount rate. The first effect results from the observation of history, which realizes not exactly as expected.

Granting of new rights and changes in benefit structure

Granting of new rights

112. *The EDG recommends recording the granting of new rights (entitlements) to employees or pensioners as employer's expenses. This is a clarification to the 1993 SNA and this is in line with ESA 1995 (ESA 4.165i).* The EDG sees it as a transfer type to policyholders, not to the scheme. **This is a clarification to the 1993 SNA and this is a change to ESA 1995.**

113. This transfer could be classified as:

- A current transfer (most likely);
- A social benefit paid by the employer/sponsor; but there is no real social insurance scheme involved; or
- A capital transfer, because transferred assets cannot be used at will by policyholders.

Change in benefit structure

114. The EDG is divided on this issue (?).

115. Some view it as an expense/revenue of the employer/sponsor, similarly to the granting of new rights (need for symmetry). Some argue that, just like the canceling of debt by agreement, where there is an implicit agreement in a change, it should be a transaction. The system recognizes an implicit agreement in the case of taxes. The reduction in benefits due to changes in the benefit structure of government pension liabilities would be recorded as an employee social contribution; an increase would be recorded as an expense. **This would be a change in SNA.**

116. Some view it as an Other Change in Volume, **unchanged from SNA 12.53 and from ESA 1995.** Such a change in benefit structure is akin to a change in scheme (restructuring). It is imposed by a party (the employer/sponsor) on the others or part of them (the policyholders). In this sense, it is neither like a transaction (bilateral agreement) nor like a revaluation (external to both parties). A change in benefit structure can also be seen as a write-off by policyholders.

Difference between granting of rights and changes in benefit structure

117. *Although, the granting of rights and the change in benefit structure may look similar, the EDG considers (?) that:*

- *an expense ought to be booked when the intention of the employer/sponsor is to convey a benefit; and*
- *otherwise, an other change in volume is recorded (as the employer/sponsor is acting to redress the financial imbalance of the scheme and such action is forced on the policyholders).*

118. Operationally, an asymmetric rule could be used where increases in total liability due to changes in benefit structures would be expensed, on presumption that there is an intention to convey a benefit, whilst decreases would be recorded as other changes in volume. Some feel uneasy about an asymmetry rule. Some consider that granting of rights and changes in benefit structure are identical events and should be treated the same.

119. The Moderator notes also the arguments that:

- A change in benefit structure is a change in rules, which impacts every body and occurs exceptionally, in contrast to the granting of additional rights, which generally affects only few and occurs regularly;
- The change in benefit structure can go both ways: increase or reduce the amount of obligations outstanding, in contrast to the granting of rights, which can go only one way; the latter gives substance to a clear intention to convey a benefit; and
- In case a employer/sponsor would regularly use changes in benefit structures to grant *de facto* new rights, reclassification of events would be in order, as the intention behind is clearly to convey a benefit.
- In addition, the booking of changes in benefit structure as income would allow frontloading (recording now) large amounts corresponding to relatively small changes in anticipated annual cash outflows but cumulated up to a very distant future, with high risks of manipulation, in particular for civil servant schemes.

Cross products

120. Generally, events need to be recorded when they occur. However, for its calculations, the actuary will change numerous parameters at the same time. Hence, the exact measure of each event will depend on the sequencing of their recording. This is a cross-product issue, arising from the fact that not all events are additive. **A convention of the following sequence (TO DISCUSS) may be suggested:** (1) change in benefit structure;(2) granting of new rights;(3) change in life expectancy assumptions; and (4) change in discount rate.

H. Other issues

Specific types of employer arrangements

121. While employer arrangements are often either unfunded, or funded nonautonomous, or funded autonomous, some arrangements may also involve:

- Multiemployer schemes; or
- Insurance contracts.

122. When a multiemployer fund keeps the accounts of its bilateral obligations with each employer, the scheme ought to be treated as if it was an autonomous fund (sometimes called “multiple-employer”). Otherwise, the scheme ought to be classified as a defined contribution one, it seems. Similarly, policy purchased by an employer from an insurer seems to be of a defined contribution nature.

123. In the unlikely case where the insurance contract is of a defined benefit nature, that is: where the actions by the employer (such as promotions) can engender additional benefits/entitlements to the policyholder and, inevitably, matching additional payments by the employer to the insurer under the contract, it seems the employer would need to maintain a notional “unfunded” scheme in its accounts in addition to the amounts booked under a contribution scheme.

Bankruptcies

124. One important consideration to policy holders is the type of guarantee that backs the defined benefit scheme (in addition to segregated assets). The nature of the arrangement for the provision of a guarantee may also be relevant for statistical recording.

125. In some countries, defined benefit plans are reinsured via a specialized, perhaps government, agency (case of the PBGC³⁴ in the USA). Autonomous funds may be terminated while underfunded, perhaps at the occasion of the bankruptcy of the employer/sponsor. The pension fund’s assets and liabilities may be taken over by the agency (which may be a government unit): the household claim does not disappear but may change institutional sector counterpart and may also change in value (as the insurance may involve ceilings).

126. In this respect, such reinsurance seems unlikely to be changing the nature of the *1993 SNA* classifications and recordings. Pension funds’ government insurance agencies have a role similar to that of bank deposits’ government insurance agencies.

127. In some other countries, reinsurance may not be common practice and the bankruptcy of the employer/sponsor may lead to a situation where some households’ claims would considerably lose value. In those countries, some would argue that the underfunded position of pension funds should be more appropriately allocated to the employees/policyholders instead of to the employer/sponsor. The Moderator believes this view is unwarranted. The economics at play is that an underfunded defined benefit plan has a claim on the employer/sponsor; otherwise it would be defined contribution. When such a plan is terminated on bankruptcy of the employer/sponsor and is not insured, it becomes de facto defined contribution. The value of its claim against the employer/sponsor thereafter fluctuates and is ultimately determined upon its liquidation.

V. PROPOSED SNA AND OTHER STATISTICAL STANDARDS

128. The proposed changes to SNA generally align with the recently issued IMF’s *GFSM 2001*. In many instances, these are clarification of the *GFSM 2001* (Report # ..., #... and #...) and in a few circumstance circumstances, these are changes (Report #..., #... and #...).

³⁴ Information on the Pension Benefit Guaranty Corporation (PBGC) is accessible at: <http://www.pbgc.gov/>

129. Other current manuals: *Balance of Payment Manual 5th Edition (BPM5)*, *Monetary and Financial Statistics Manual (MFSM 2000)*, in general align on the current 1993 SNA. It is expected they would be adjusted upon change to SNA.

130. However, neither the *BPM5* nor *GFSM 2001* follow the dual recording on pension. If SNA would be unchanged in this regard, an effort in terms of supplementary information would be needed, to allow bridging data SNA based social contribution (D.61) and social benefits (D.62) with their equivalent under each of those systems.

VI. BRIDGE BETWEEN THE PROPOSED REVIEWED SNA AND BUSINESS ACCOUNTING

A. Accounting standards for employer schemes

Context

131. Business accountings standard setters have long pondered on rules how to best account for the net periodic pension cost borne by the employer as well as its remaining liability – by reference to accrual accounting.

132. For example, the Financial Accounting Standard Board (FASB), the US standard setter, reaffirms in Financial Accounting Standard (FAS) 87 on Employers' Accounting for pensions, published in 1985, "the usefulness of information based on accrual accounting ... (which) goes beyond cash transactions to provide information about assets, liabilities, and earnings". The FASB stated that "the net pension cost for a period is not necessarily determined by the amount the employer decides to contribute to the plan for that period, and that many factors (including tax considerations and availability of both cash and alternative investment opportunities) that affect funding decisions should not be allowed to dictate accounting results if the accounting is to provide the most useful information." It further indicated that "recognition of ... a liability is not a new idea: Accounting Research Bulletin No.47, *Accounting for Costs of Pension Plans*, published in 1956, stated that as a minimum, the accounts and financial statements should reflect accruals which equal the present worth, actuarially calculated, of pension commitments to employees...".

133. Various scandals, the opacity of pension accounting, the lack of comparability that this entails, the substantial fluctuations in called-in contributions (including episodes of contribution holidays), the recent appearance of large underfunding positions in numerous employer pension funds, and the general movement to mark-to-market rules have laid the ground for further substantial advances in the way pension obligations are accounted for across the board. As an example, the UK based Financial Reporting Standard (FRS) 17 represents one of the most advanced position developed by standard setters. It is also worth noting a trend out of defined benefit pension schemes in favor of defined contribution schemes, as employers try to shift risks off their balance sheet (including the "accounting risk").

Pension recording in business accounting standards (International, US and UK standards)

General

134. While each national standard setter enforces its own sets of rules, the International Accounting Standard Board (IASB) strives to promote global convergence across standards with the issuing of International Financial Reporting Standards (IFRS – previously known as IAS). IAS 19 on Employee Benefits illustrates the general thrust of the accounting profession (see the EDG contribution by Ahmad Hamidi-Ravari):

- The employer books a periodic cost of its pensions obligations, using actuarial estimates, which includes among other things: (a) the cost of additional entitlements against the service provided by employees during the period and (b) the carrying cost of the existing obligations net of “a return” provided on existing plan’s assets;
- The employer books a liability (or an asset) corresponding to the underfunded (overfunded) position of the pension fund, although many standards allow delayed or smoothed recognition (and possibly a maximum asset position);
- Those standards are under scrutiny with a view to obtain **immediate** recognition of the liability.

135. In this context, it is worth noting that accounting standards recognize liabilities whether funded or unfunded. As an example, the FASB professes in the FAS 87 that “an employer with an unfunded pension obligation has a liability and an employer with an overfunded pension obligation has an asset. The most relevant and reliable information about the liability or asset is based on the fair value of plan assets and a measure of the present value of the obligation using current, explicit assumptions.”

International standard: IAS 19

136. In the case of IAS 19, the cost of employment is decomposed in a *current service cost* which captures the actuarial value of new entitlement rights accrued by staff employed during the period, a *past service cost*, the *interest cost* (interest on pension obligations), the *expected return on (net) assets* minus/plus the *amortization of the cumulated unrecognized actuarial gains/losses*. The expected return on assets is currently reported in income and the difference between the expected return and the actual return is treated as an actuarial gain and loss, the recognition of which is currently allowed to be deferred. Hence, IAS 19 currently allows enterprises to delay the recognition of *net plan assets* on their balance sheet and therefore the impact on their operating statements, by way of imputing an *expected return on plan assets* (Para 105 - 107) and defining a *cumulated unrecognized actuarial gains/loss* to be amortized gradually over time (outside of a corridor of +/-10%).

137. The IASB has initiated a project on a review of IAS 19. It tentatively agreed that actuarial gains and losses should be recognized immediately, i.e. that the corridor and spreading options within IAS 19 should be removed. However, it was accepted that such a proposal could not be taken forward until the proposals for Performance Reporting were

finalized. This other IASB on-going project on Performance Reporting explores the promising possibility to present the usual income statement under a three column presentation: income before "*remeasurements*", "*remeasurements*" and total – which bears fruitful and encouraging resemblance with the essential transactions versus other economic flows delineation of the *1993 SNA*. The Moderator draws the attention on the unique potential for improving source data provided to statisticians/national accountants that the adoption of such a new reporting format would entail.

US standard: FAS 87

138. Under FAS 87, “the following components shall be included in the net pension cost recognized for a period by an employer sponsoring a defined benefit pension plan:

- Service cost;
- Interest cost;
- Actual return on plan assets, if any;
- Amortization of unrecognized prior service cost, if any; and
- Gains and losses (including the effects of changes in assumptions) to the extent recognized”. (para 20)

139. “The service cost component recognized in the period shall be determined as the actuarial present value of benefits attributed by the pension benefit formula to employee service during the period.” (para 21)

140. “The gain or loss component of net periodic pension cost shall consist of (a) the difference between the actual return on the plan assets and the expected return on plan assets and (b) amortization of the unrecognized net gain and loss from previous periods.” (para 34)

141. “As a minimum, amortization of an unrecognized net gain or loss ... shall be included” when the underfunded position exceeds 10% the outstanding obligations and using an average remaining service period or life expectancy of participants. (para 32)

142. “A liability (unfunded accrued pension cost) is recognized if net periodic pension cost recognized pursuant to this Statement exceeds amounts the employer has contributed to the plan.” (para 35)

143. Hence, FAS 87 allows delayed recognition of the employer liability, with a view to limit fluctuations of the net periodic pension cost.

UK standard: FRS 17

144. The new UK standard FRS 17 makes two major changes in accounting for defined benefit schemes. It approaches the problem by concentrating on the measurement of the assets and liabilities of the scheme and on how the costs are reflected in the revenue statements. The assets of the scheme are to be valued at fair values, a major change from the old rules under the previous SSAP 24, which employed an actuarial valuation approach for

scheme assets. The liabilities are measured on an actuarial basis, and include both the contracted obligations promised by the scheme and any constructive obligations (see below), where statements or past practice have led to reasonable expectations by employees. The valuation of assets and liabilities gives rise to either a “surplus” or a “deficit” (the difference between the market value of the scheme's assets and the net present value of its liabilities). It must be recognized in the balance sheet of the employer to the extent that a surplus may be recovered by reduced contributions, or a liability reflects its legal or constructive obligations. The profit and loss account recognizes the annual cost estimated by an actuary to provide the promised benefits within the operating costs. Actuarial gains and losses arising from new valuations are to be recognized in the *Statement of Total Recognized Gains and Losses*. (see below)³⁵.

Public sector accounting standards

145. Governments keep their accounts following national accounting practices that vary considerably across the world.

146. The Public Sector Committee (PSC) of the IFAC (International Federation of Accountants)³⁶ has started issuing International Public Sector Accounting Standards (IPSASs). IPSASs are based, to the extent appropriate for the public sector, on the IFRS issued by the IASB.

147. The suite of the twenty existing IPSASs does not currently include a standard which prescribes requirements for financial reporting of pensions provided to government employees as consideration for the services they provide as employees. However, IPSASs do specify a hierarchy of guidance that preparers may refer to in developing their own accounting policies on financial reporting issues for which a specific IPSAS has not been issued (see IPSAS 1 paragraph 42). Accordingly, when developing their own accounting policies for financial reporting of employee benefits including employee pensions, preparers will consider the requirements of IAS 19 *Employee Benefits*, the standard recognized by the IASB (see the EDG contribution by Ahmad Hamidi-Ravari). IAS 19 is being reviewed (see the EDG contribution by Anne McGeachin).

148. Quite separately, the PSC has established a Steering Committee on Social Policy Obligations (SPO), which is developing an Invitation to Comment for issue in late 2003 or early 2004. IPSAS 19 *Provisions, Contingent Liabilities and Contingent Assets* provides guidance on the recognition, measurement and disclosure of a wide range of provisions, and the disclosure of contingent liabilities (by reference to IAS 37 *Provisions, Contingent*

³⁵ John Morley at: <http://www.accountancyage.com/Comment/1128102>

³⁶ The IFAC (International Federation of Accountants) is the global organization for the accountancy profession (at www.ifac.org). It works with its 155 member organizations in 113 countries to protect the public interest by encouraging high quality practices by the world's accountants. IFAC members represent 2.4 million accountants employed in public practice, industry and commerce, government, and academe.

Liabilities and Contingent Assets). However, it excludes from its scope social policy obligations of governments that arise from non-exchange transactions.³⁷

Liability boundary

149. The liability boundary differs between accounting standards and statistical standards (*1993 SNA*) in two main respects:

- The *1993 SNA* does not recognize provisions as liabilities; Accountants recognize obligations as liabilities even if they are not legally enforceable, but arise from “*constructive obligation*”.
- In contrast, the *1993 SNA*, defines economic assets as entities (from which economic benefits may be derived and) whose ownership rights are enforceable at law.

150. *Constructive obligations* are defined in IAS as “obligations that derive from an enterprise’s actions where

- By an established pattern of past practice, published policies or a sufficient specific current statement, the enterprise has indicated to other parties that it will accept certain responsibilities; and
- As a result, the enterprise has created a valid expectation on the part of other parties that it will discharge those responsibilities.”

B. Example of bridge: from FRS 17 to the reviewed SNA

FRS 17

151. FRS 17 sets out the accounting treatment for retirement benefits such as pensions and medical care during retirement. It replaces SSAP 24 ‘Accounting for pension costs’ and UITF Abstract 6 ‘Accounting for post-retirement benefits other than pensions’.

152. The FRS 17’s objectives are that:

- a) financial statements reflect at fair value the assets and liabilities arising from an employer's retirement benefit obligations and any related funding; and
- b) the operating costs of providing retirement benefits to employees are recognized in the accounting period(s) in which the benefits are earned by the employees, and the

³⁷ IPSAS 19 paragraph 9 explains that "the exclusion of these provisions and contingent liabilities from the scope of this Standard reflects the Committee's view that both the determination of what constitutes the "obligating event" and the measurement of the liability require further consideration before proposed Standards are exposed. For example, the Committee is aware that there are differing views about whether the obligating event occurs when the individual meets the eligibility criteria for the benefit or at some earlier stage. Similarly, there are differing views about whether the amount of any obligation reflects an estimate of the current period's entitlement or the present value of all expected future benefits determined on an actuarial basis."

related finance costs and any other changes in value of the assets and liabilities are recognized in the accounting periods in which they arise.

153. Regarding defined benefit (funded) plans, the main requirements of FRS 17 are:
- 1) pension scheme assets are measured using market values.
 - 2) pension scheme liabilities are measured using a projected unit method and discounted at an AA corporate bond rate.
 - 3) the pension scheme surplus (to the extent it can be recovered) or deficit is recognized in full and without delay on the balance sheet (the surplus/deficit here is stock a concept: it is the difference between the market value of the scheme's assets and the scheme's liabilities).
 - 4) the movement in the scheme surplus/deficit is analyzed into: (a) the current service cost and any past service costs; these are recognized in operating profit; (b) the interest cost and expected return on assets; these are recognized as other finance costs; and (c) actuarial gains and losses; these are recognized in the statement of total recognized gains and losses.

The notion of the Statement of total recognized gains and losses (FRS 3)

Traditional financial reporting and FRS new presentation

154. Traditionally, financial reporting is structured around two main statements:
- the *balance sheet*, which shows the entity's assets and liabilities at one point in time, and their difference: the shareholders' own funds or equity at that moment;
 - the *income statement* (named also: profit and loss account, expense and revenue accounts, etc.), which shows the entity's revenues and expenses during a period, and their difference: the profit or loss of the period.

155. The basic tenet of accounting is that the change observed over a period in the balance sheet must relate to the income statement of the period, that is: the change in "own funds" must be equal to the profit or loss during the period (before distribution to, or contributions from, shareholders).

156. Retaining this basic tenet, FRS sponsors a promising refinement: it retains an income statement using a broad approach to income, but distinguishes it from another statement using a narrow approach to income. Hence, FRS defines two primary statements summarizing the activity of the period:

- the *Profit and loss account*, which reflects the operating result as well as results from financing costs, costs of termination and extraordinary items (narrow view of income);
- the *Statement of total recognized gains and losses* (STRGL), which encompasses—in addition to the result of the profit and loss account—other recognized gains and

losses that are specifically permitted or required to be taken directly to reserves (broad view of income).

Interplay between FRS 3 and FRS 17

157. The Discussion Paper 'Aspects of Accounting for Pension Costs', published in July 1998, explained that, as it was clear that a pensions standard based on actuarial values for assets would be regarded internationally as weak and would not be an approach that other standard-setters would follow, the Board did not believe that there were sufficient reasons to stand out against the global trend to a market value approach **as long as such an approach could be developed in a way that did not introduce undue volatility into the profit and loss account.** [FRS 17—Appendix IV paragraph 6; emphasis added]

158. In practice, the putting to use of the *Statement of total recognized gains and losses* was the device that allowed marking to market the employer/sponsor's net exposure to the scheme without creating undue volatility of the profit and loss accounts.

159. Because of the structure of FRS accounting, FRS 17 seem to be bridgeable rather remarkably well with a proposed reviewed SNA, owing to two main reasons:

- a. Both FRS and SNA follow an accrual basis: valuation and time of recording will be identical or close, for many entries.
- b. FRS distinction between profit and loss account and *Statement of total recognized gains and losses* closely resemble the SNA delineation between transactions and other economic flows (or between volume changes and price changes).

Bridge between FRS 17 and a reviewed SNA

160. Under FRS 17, the costs of pensions is decomposed into:

- a. the current service cost
- b. the interest cost
- c. the expected return on assets
- d. actuarial gains and losses
 - i. the difference between the expected and actual return on assets
 - ii. experience gains and losses arising from scheme liabilities
 - iii. The changes in demographic and financial assumptions
- e. past service costs
- f. gains and losses on settlements and curtailments

161. Past service costs arise when employers make commitment to provide higher level of benefits than previously promised, other than those to which the employer statutorily, contractually or implicitly committed to. Settlements and curtailments arise where employees retire early or transfer out of the scheme or where specific decisions are made by the employer that are not covered by actuarial assumptions.

162. (a), (b), (c), (d) are periodic costs whilst (e), (f)³⁸ are non-periodic. (a), (e), (f) are recorded within operating profit whilst (b), (c) are recorded within finance costs and (d) is recorded in the Statement of Total Recognized Gains and Losses.

163. One can draw a table of correspondence between the various FRS 17 identified entries (notably in paragraph 50 and 82) and the proposed reviewed SNA categories (account of the employer). The valuation and the time of recording is generally not an issue because both systems follow an accrual basis. The recording differs when the scheme is autonomous or not. In the latter case, it is consolidated with the accounts of the employer.

Table 2	FRS 17	Reviewed SNA	Reviewed SNA
	Financial Statement	non-autonomous	Autonomous
the current service cost	Operating – 82a	D.1	D.1
past service costs	Operating – 82b	D.7	D.7
the interest cost	Finance cost – 84a	D.44	REV
the expected return on assets	Finance cost – 84b	D.4+REV	REV
actuarial gains and losses:			
the difference between the expected and actual return on assets	STRGL – 85a	REV	REV
experience gains and losses arising from scheme liabilities	STRGL – 85b	REV	REV
* the changes in demographic and financial assumptions	STRGL – 85c	REV	REV
gains and losses on settlements and curtailments	Operating – 82d	OCV	OCV
Assets at market value	(to the balance sheet) – 88	Balance sheet	
Liability	(to the balance sheet) – 88	Balance sheet	
Net assets	Balance sheet		Balance sheet

³⁸ In rare circumstances, those last two items can be netted in the *profit and loss account* with amounts deducted from previously unrecognized surpluses. See FRS 17, para 82 and Appendix IV para 51.

Numerical example: FRS Appendix I

164. The Appendix I to FRS 17 provides a numerical example. This numerical example is bridged below into the following two tables, to sketch the amounts applicable in a reviewed SNA. The accounts of the pension fund in a SNA framework is shown as well as the accounts of the employer. The year in question is 20X2.

165. The tables below show in a systematic manner, and with SNA codes:
- The SNA based non financial transactions, uses and resources, with a balance: net lending / net borrowing (B.9).
 - In a separate bloc, the opening and closing balance sheets, and the articulation with economic flows: transactions, revaluations and OCV.
 - Assets and liabilities are shown side by side, for various instruments (non financial assets, cash, bonds, equity and insurance technical reserves), with a total and a net value: the SNA net worth (B.90) and its changes owing to transactions (B.10.1), to revaluations (B.10.2) and OCV (B.10.3).

The pension fund

166. The FRS 17 examples provides:
- Assets at market value: property (AN), bonds (AF.3) and equity (AF.5).
 - The present value of schemes liabilities to the household (AF.611).

The scheme is overfunded: the EDG recommendation is to book a liability against the sponsor under the (new) instrument AF.619.

167. FRS 17 provides the amounts to be recorded as revaluations in insurance technical reserves liabilities (146+58). The change in market value of assets minus the transaction (to be calculated) will be booked as revaluations.

168. FRS 17 provides the interest attributable to policy holders (53). In addition, the current service cost is 34 (=employer contribution), additional rights granted are 12 (they are recorded as an employee/pensioner contribution, in addition to the contribution supplements = a total of 65). By deduction (with the change in stocks, the revaluation of 204 and the social contribution of 99) one calculated that the pensions paid were 52.

169. FRS 17 provides an amount for the expected return on assets of 73, not for the SNA accrued property income or sale of service. We therefore invent a split on the basis of ratio: 44.14 is recorded as income (rentals: 1.96, interest: 12.48, dividend: 14.42). The difference (of 44.14) is added to the “excess of the actual return less expected return on assets” (480 provided by FRS 17) to constitute the total SNA revaluation on assets (524.14).

170. The net cash flow is set at zero:
- Contribution paid: 25;
 - Pension paid: -42;
 - Property income received: +28.9 (supposed = to accrual);
 - A net purchase of bonds (+1.86) is booked so to get a zero cash balance.

171. At this stage, the equilibrium of the accounts is achieved. It can be observed that the articulation between the change in stocks of assets and flows, on the one hand, and the net lending / net borrowing from above- and below-the-line, on the other hand, do balance simultaneously.

172. Finally, the position AF.619 is set to obtain a zero net worth of the closing balance sheet. Its increase arises owing to transactions (35 accrued contributions minus 25 in paid contributions, plus 12 additional accrued rights) and, as a residual, to revaluation (296).

173. At this stage, the account of the pension fund is complete.

The employer

174. FRS 17 implies that the wage paid is 312.5 (25/0.08). The granting of additional rights is booked as a current transfer (D.75). The employer's sales are set so to achieve a change in net assets, other than related to pensions, equal to 50 (as in FRS 17). The employer is supposed to have 600 in non financial assets and 50 in cash: this is consistent with FRS 17 net assets of 650.

175. Consumption of fixed capital is 50. The holding gains on fixed assets is 50.

176. The imputed social contribution is 34.

177. The cash position increases by 50:

- a. by the margin of sales over other costs (of 29), net of
- b. the increase in accrued liabilities to the pension fund: 21 (again = accrued contributions plus additional entitlements granted minus paid contribution: $34+12-25$).

178. Notice a small complication: FRS 17 deducts, from the net assets of the sponsor against the pension fund, an amount for (future) taxes, which we must disregard in SNA.

Bridge from FRS 17 to a reviewed SNA

Numerical example based on FRS 17 Appendix I

Pension fund

	Uses	Resources	Expected	Difference		
			73	44.14		
P.1		1.96	2.989	1.029		
P.2						
D.1						
D.11						
D.122						
D.4	53	26.9	70.011	43.111		
D.41		12.48	11.52	-0.96		
D.42		14.42	58.491	44.071		
D.44	53					
D.5						
D.61		99				
D.6112		65				
D.6121		34				
D.62	52					
D.75						
D.8	47					
P.3						
P.51						
of which K.1						
B.9		-24.14				
Control:	0					
			0			

Transaction	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities			
	Balance Sheet		Transactions		Revaluations		OCV		Balance Sheet					
Net worth	B.90	0	B.10.1	-24.14	B.10.2	24.14	B.10.3	0	B.90	0	1.4E-14	0		
Total	962	962	1.86	26	524.14	500	0	0	1488	1488	0	0		
AN	49				25				74		0	0		
AF.2			0								0	0		
AF.3	192		1.86		104.14				298		0	0		
AF.5	721		0		395				1116		0	0		
AF.6	0	962	0	26	0	500	0	0	0	1488	0	0		
AF.611		758		47		204			1009		0	0		
AF.619		204		-21		296			479		0	0		

1-Dec-03

Source: The EDG Moderator

Bridge from FRS 17 to a reviewed SNA

Numerical example based on FRS 17 Appendix I

Company

	Uses	Resources
P.1		387.5
P.2		
D.1	346.5	
D.11	312.5	
D.122	34	
D.4		
D.41		
D.42		
D.44		
D.5		
D.61		
D.6112		
D.6121		
D.62		
D.75	12	
D.8	0	
P.3		
P.51		
of which K.1	50	
B.9	29	
Control:	0	

Transaction	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities		Controls:	
	Balance Sheet		Transactions		Revaluations		OCV		Balance Sheet					
Net worth	B.90	0	B.10.1	-21	B.10.2	21	B.10.3	0	B.90	0	0	0	0	0
Total	854	854	-21	0	346	325	0	0	1179	1179	0	0	0	0
AN	600		-50		50				600				0	0
AF.2	50		50						100				0	0
AF.3													0	0
AF.5		854				325				1179			0	0
AF.6	204	0	-21	0	296	0	0	0	479	0			0	0
AF.611													0	0
AF.619	204		-21		296		0		479				0	0

1-Dec-03

Source: The EDG Moderator

VII. NUMERICAL EXAMPLE

179. Two numerical examples are provided to illustrate the functioning of the proposed new SNA recording: an unfunded (government) scheme and an autonomous defined benefits scheme.

180. A table describes the accounts of government including the recording of its unfunded pension scheme. It allows describing very simply the basic features of the EDG proposal regarding actuarial valuations and the stock-flow articulation.

181. Another set of tables describes a more complex case of a defined benefit pension scheme. It allows showing the role that the net fund assets allocated to the employer/sponsor plays. One draws three sets of accounts: the pension fund, the employer, and their consolidated accounts; in case the pension fund is non-autonomous, the two accounts are consolidated into that latter and unique account.

182. As already seen in the previous section, the tables provide a complete and consistent articulation between changes in balance sheets and income accounts.

183. In addition, an equilibrium of the whole economy is provided for illustration purposes (although it requires additional information to close the accounts).

A. The unfunded scheme

The case

184. Government pays 50 in wages, purchases 20 in intermediate consumption, has 50 in non financial assets with a consumption of fixed capital of 5 (and 10 in gross fixed capital formation). Government has a debt of 250 in bonds, and a few assets: 20 in cash and 50 in shares. Government collects 30 in income tax. Its interest bill is 15. The dividend received is 2.7.

185. The pension scheme is unfunded. Owing to its generosity, actuaries calculated that the stock of obligations, using a 6% discount, is 100. The service cost is 30% of the wage bill or 15. The pensions paid amount to 6.

Analysis of the impact of the pension scheme

186. The pension debt increases over the period by 15:

- 15 in additional employer contributions;
- plus 6 of property income;
- minus 6 of pension paid.

187. In the SNA sequence of accounts, social contributions of 21 are recorded: 15 of imputed employer contributions and 6 of “contribution supplement” (employee contribution); 6 of social benefits payable is also recorded. The net impact of 15 is neutralized at the level of D.8. The impact of the pension scheme on government net lending / net borrowing is therefore 21.

Government

	Uses	Resources
P.1		90
P.2	20	
D.1	65	
D.11	50	
D.122	15	
D.4	21	2.6786
D.41	15	
D.42		2.6786
D.44	6	
D.5		30
D.61		21
D.6112		6
D.6121		15
D.62	6	
D.75		
D.8	15	
P.3	90	
P.51	10	
of which K.1	5	
B.9	-83.321	

Control: 0.0014

Transaction	Assets Balance Sheet	Liabilities Balance Sheet	Assets Transactions	Liabilities Transactions	Assets Revaluations	Liabilities Revaluations	Assets OCV	Liabilities OCV	Assets Balance Sheet	Liabilities Balance Sheet
Net worth	B.90 -230		B.10.1 -78.32		B.10.2 15		B.10.3 0		B.90 -293.32	0
Total	120	350	-23.32	55	0.5	-14.5	0	0	97.18	390.5
AN	50		5		2				57	0
AF.2	20								20	0
AF.3		250	1.68	40		-14.5			1.68	275.5
AF.5	50		-30		-1.5				18.5	0
AF.6	0	100	0	15	0	0	0	0	0	115
AF.611		100		15					0	115
AF.619									0	0

GFSM 2001 Expense	111
GFSM 2001 Revenue	32.679
GFSM 2001 Net Operating Balance	-78.321
1-Dec-03	

188. The *GFSM 2001* expenses are 111 and revenue 32.68. The contribution of the pension scheme to government expense is 21, owing to 15 as part of compensation of employees and 6 as part of property income.

189. Interestingly, the net worth of government finishes at -293 of which 115 derives from its pension obligations, currently not recognized in the *SNA 1993*.

Summing up of the impact of the EDG proposal

190. The example illustrates the EDG proposal: the government output is more appropriately measured. The net lending net borrowing of households is substantially improved, as well as their net worth.

B. The defined benefit funded scheme

191. An employer runs a defined benefit autonomous scheme and pays to its staff 150 in wage (gross of employee pension contributions: $5\%=7.5$). A cost of 3 for running the pension scheme comprises: 1 in wages and 2 in fees. It is charged to the employer (we should assume he charges it to his cost of employment).

192. The actuary of the pension fund determined that at the beginning of the period, the pension obligations of the scheme were 500. The assets held by the fund is 480, in the form of 30 in cash, 250 in bonds and 200 in shares. The scheme is underfunded.

193. During the period, the interest on the cash accrued, and paid, at 2% is 0.6. The interest accrued on bond is 15 (measured according to the debtor principle), while only 10 of coupons were actually paid, and the price of bonds fell by 4% as market yields moved from 6% to 7%. The dividend paid is 2% (4) and the price of shares fell by 10% during the period.

194. For the period under review, the actuary determined that the additional right due to work done is 30 (this possibly resulted from applying a ratio of 20% of gross wage calculated at the last actuarial revision).

195. The pensions paid by the scheme during the period amount to 20.

196. The scheme purchased 80 in shares, to invest its portfolio.

197. The employer decides to pay a lump sum of 40 to recapitalize the fund. The employer grants additional rights of 2 to selected individuals. The rules are slightly amended which translates into an overall reduction in actuarial obligations of 1. The actuary revises upward the life expectancy from 15 years to 15.75 years (5%). The actuary had previously planned 3% inflation. The realized inflation was 4%. The future inflation is now planned at 3.25%.

198. The discount rate was 7% at the beginning of the period. It is adjusted to 7.5%.

199. It is assumed that the market share of the company fully valued its net assets at the beginning of the period. Shares fall during the period by 3%.

200. The employer has 100 of non financial assets and gross investment of 35. Sales are 300, consumption of capital 20, and intermediate consumption 50.

201. A key consideration is to obtain the same cash flow paid by the employer and received by the pension fund. Another point is that the net asset position of the pension fund and its changes arising from transactions and revaluations should be the same in both accounts: employer and pension fund.

Analysis by categories

The pension fund

202. The liability in insurance technical reserves increases by 64.775, owing to:
- Transactions: 52 of which: cost of labor (30= 22.5 employer; 7.5 employee); granting of new right (2); the property income at 7% (35) plus a COLA adjustment of 5 [those 5: to discuss]; 2 of additional rights granted; minus pensions paid (20).
 - Revaluations: 13.775 reflecting an upward revision of life expectancy (5%), an upwards revision due to expected inflation (+0.25%), a downward revision due to the change in discount rate (-0.5%) [a 0.1% change roughly translates into a 1% change in present value of average expected cash flows]. We penciled in a total net effect of +2.5%.
 - OCV: 1
203. The change in cash of -13.4 results from:
- Receipts from employees (7.5) and the employer: 67.5 arising from:
 - 22.5 (normal employer contributions).
 - plus 2 (additional rights).
 - plus 3 (cost of running the fund).
 - plus 40 (recapitalization; or extraordinary funding).
 - Cash receipts from investments (cash: 0.6, bond: 10, shares: 4).
 - Payments to pensioners (20).
 - Cost of the fund (3).
204. The net lending/ net borrowing (B.9) of – 19 results from:
- Property income of 21 on portfolio assets: shares, bond, cash, as well as on the net claim against the employer (1.6).
 - Property income payable of 35+5=40.
 - Costs of running the fund are covered by a sale (to households).
- Note that the pension fund generates a net saving (-19) owing to the fact that the measurement of the property income on the assets is not fully appropriate: using the debtor principle on bonds and using dividends for shares.
205. Movement of assets are due:
- For cash: to the movements above.
 - For bonds: to interest accrued minus coupon paid (there is zero other purchases net of disposals), and a holding loss of 10 (4%).
 - For shares: acquisitions of 80. And holding loss of 20 (10%).

Pension Fund

	Uses	Resources
P.1		3
P.2	2	
D.1	1	
D.11	1	
D.122		
D.4	40	21
D.41		17
D.42		4
D.44	40	
D.5		
D.61		72
D.6112		47.5
D.6121		24.5
D.62	20	
D.75		
D.8	52	
P.3		
P.51	0	
<i>of which K.1</i>		
B.9	-19	
<i>Control:</i>	0	

Transaction	Assets Liabilities		Assets Liabilities		Assets Liabilities		Assets Liabilities		Assets Liabilities	
	Balance Sheet		Transactions		Revaluations		OCV		Balance Sheet	
	B.90		B.10.1		B.10.2		B.10.3		B.90	
Net worth	0		-19		18		1		0	
Total	500	500	33	52	31.775	13.775	0	-1	564.775	564.775
AN										
AF.2	30		-13.4		0		0		16.6	
AF.3	250		5		-10		0		245	
AF.5	200		80		-20		0		260	
AF.6	20	500	-38.6	52	61.775	13.775	0	-1	43.175	564.775
<i>AF.611</i>		<i>500</i>		<i>52</i>		<i>13.775</i>		<i>-1</i>		<i>564.775</i>
<i>AF.619</i>	<i>20</i>		<i>-38.6</i>		<i>61.775</i>		<i>0</i>		<i>43.175</i>	

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Company

	Uses	Resources
P.1		300
P.2	50	
D.1	175.5	
<i>D.11</i>	150	
<i>D.122</i>	25.5	
D.4	16.4	0
<i>D.41</i>	1.4	
<i>D.42</i>	15	
<i>D.44</i>		
D.5	10	
D.61		
D.6112		
D.6121		
D.62		
D.75	2	
D.8	0	
P.3		
P.51	35	
<i>of which K.1</i>	20	
B.9	11.1	
<i>Control:</i>	-4E-14	

Transaction	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
	Balance Sheet		Transactions		Revaluations		OCV		Balance Sheet			
	B.90		B.10.1		B.10.2		B.10.3		B.90			
Net worth	0		26.1		-43.375		0		-17.275			
Total	300	300	-12.5	-38.6	10	53.375	0	0	297.5	314.775		
AN	200		15		10		0		225			
AF.2	100		-27.5		0		0		72.5			
AF.3												
AF.5		280		0		-8.4		0		271.6		
AF.6		20		-38.6		61.775		0		43.175		
<i>AF.611</i>												
<i>AF.619</i>		20		-38.6		61.775		0		43.175		

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Pension fund and Company

	Uses	Resources
P.1	0	303
P.2	52	0
D.1	176.5	0
<i>D.11</i>	151	0
<i>D.122</i>	25.5	0
D.4	55	19.6
<i>D.41</i>	0	15.6
<i>D.42</i>	15	4
<i>D.44</i>	40	0
D.5	10	0
D.61	0	72
D.6112	0	47.5
D.6121	0	24.5
D.62	20	0
	0	0
D.75	2	0
	0	0
D.8	52	0
	0	0
P.3	0	0
P.51	35	0
<i>of which K.1</i>	20	0
B.9	-7.9	
<i>Control:</i>	-5E-14	

Transaction	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
	Balance Sheet		Transactions		Revaluations		OCV		Balance Sheet			
	B.90		B.10.1		B.10.2		B.10.3		B.90			
Net worth	0	0	7.1	0	-25.375	0	1	0	-17.275	0		
Total	800	800	20.5	13.4	41.775	67.15	0	-1	862.275	879.55		
AN	200	0	15	0	10	0	0	0	225	0		
AF.2	130	0	-40.9	0	0	0	0	0	89.1	0		
AF.3	250	0	5	0	-10	0	0	0	245	0		
AF.5	200	280	80	0	-20	-8.4	0	0	260	271.6		
AF.6	20	520	-38.6	13.4	61.775	75.55	0	-1	43.175	607.95		
<i>AF.611</i>	0	500	0	52	0	13.775	0	-1	0	564.775		

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206. The net position of the fund against the employer is calculated to obtain a zero net worth. The change = +20.175 is explained by:

- Transactions (-38.4): interest on the net assets position (1.6) supposedly accrued minus the lumpsum payment of 40 (recapitalization).
- **Revaluations: calculated as a residual (=+61.775). This item can also be measured as the net impact of all revaluations and other changes in volume arising on all other assets/liabilities.**

The employer

207. The employer is an efficient market producer with sale outstripping cost of production. The net lending net borrowing is 21.1, reflecting:

- Sales of 300.
- Compensation of employees of 175.5.
- Consumption of fixed capital of 20
- Net investments of 15 (gross investments of 35).
- Intermediate consumption of 50.
- Other costs: granting of rights (2) and interest payable to the fund (1.6).
- Dividends of 15.
- Income tax: 10.

208. Compensation of employees of 175.5 reflect:

- Wage to employees of 150 of which 7.5 of employee contributions (possibly directly forwarded to the fund: but this is not relevant).
- Cost for the employer of 25.5:
- 22.5 corresponding to the actuarial cost (30) minus the employee share (7.5).
- cost for financing the pension fund operating cost (3).

209. The movement of cash: -17.5 reflects:

- 67.5 paid to the fund.
- 300 in sales.
- 150 in wages
- 50 in intermediate consumption.
- 35 in investments.
- 15 in dividends.
- Income tax: 10.

210. The movement of the net worth of the company is interesting. It becomes negative by 7.275, because we assumed that the share fell by 3% instead of a fall in companies net value of 15.675 (or 5.6%). The net value (or own funds) of the company falls by 15.675 despite a net operating balance of 26.1 (and a profit before distribution of 51.1), because:

- Aside from a distribution of 15 and a revaluation on fixed assets of 10.
- The obligations to the scheme have increased by way of an other economic flow of 61.775 (as found above).

Summing up of the impact of the EDG proposal

211. **The example illustrates the EDG proposal: the net worth of the pension fund is zero despite being always underfunded. The pension fund distributes a substantial property income to policy holders, with the effect of generating a pension fund's negative saving position. In addition, because the total return of its portfolio is poor owing to fall in prices of assets, the underfunded position increases substantially, despite a recapitalization during the period. The latter is recorded as a financial transaction for the employer, not as a cost of employment: the market employer gross operating surplus is therefore more correctly measured. The holding loss of the pension fund impacts the employer via a matching holding loss.**

C. Rest of the economy

212. There is interest in the accounts of the households, which are, for pensions, the counterparts of the transactions, other economic flow and stocks in insurance technical reserves. However, to have meaningful households' accounts, there is a need to close the accounts for the simplified total economy.

Institutional sectors and market equilibrium

213. Because the nonfinancial corporate sector is composed of the unique employer and because the pension fund operates substantial transactions, one needs to add a Rest of the world account (ROW), which allows an appropriate closing of the economy (need for counterpart liabilities to the purchased assets).

214. A banking sector issues deposits and purchases bonds or shares.

215. The ROW is used to balance the bond market (AF.3) as well as the equity market (AF.5). This is in practice rather realistic, as arbitrage across markets triggers substantial crossborder flows. The trade balance is in equilibrium (as much import as export).

216. The good market is in equilibrium as the market output of 251 (300+3-50-2) is consumed by households for 186 and by government for 20 and invested for 45. GDP is 321 (70 of non market value added). Finally we have:

$$\begin{aligned} \text{GDP } 321 &= \text{private consumption } 186 + \text{government consumption } 90 \\ &+ \text{gross investment } 45 + \text{net trade } 0 \end{aligned}$$

Wealth

217. The starting net wealth of the economy is 570, decomposed of 250 in non financial assets and 320 in net claim on the ROW.

218. The pension fund net worth is zero, despite being underfunded, following the EDG proposal of allocating the net assets to the sponsor (20). The market is efficient, and the net worth of both the non financial employer and the bank is zero. The net worth of the nation therefore comprises: 800 of households' net assets and -230 of government's net assets.

219. The change in net worth is +47 over the period originates from net domestic saving of +36 and revaluations of +11.4 (on nonfinancial assets: +12 and on net claims on the ROW: - 0.6).

220. A large fraction of the households' wealth is constituted by its insurance technical reserves.

Transaction	Assets	Assets	Assets	Assets	Assets	Assets	Liabilities	Liabilities	Liabilities	Liabilities	Liabilities
B.10.1	26.1	-19.0	95.8	-16.0	-78.3	11.4	-38.6	52.0	0.0	60.0	55.0
Total	-12.5	33.0	95.8	44.0	-23.3	14.3					2.9
AN	15.0				5.0						
AF.2	-27.5	-13.4	28.8	15.0	0.0	0.0				0.0	2.9
AF.3		5.0		19.0	1.7	44.3				30.0	40.0
AF.5		80.0	0.0	10.0	-30.0	-30.0				30.0	0.0
AF.6		-38.6	67.0		0.0		-38.6	52.0			15.0
AF.611			67.0		0.0			52.0			15.0
AF.619		-38.6	0.0		0.0		-38.6				0.0

36

20

20

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Revaluation	Assets	Assets	Assets	Assets	Assets	Assets	Liabilities	Liabilities	Liabilities	Liabilities	Liabilities
B.10.2	-43.4	18.0	16.4	0.6	15.0	5.4	53.4	13.8	0.0	0.0	-14.5
Total	10.0	31.8	16.4	0.6	0.5	5.4					0.0
AN	10.0				2.0						0.0
AF.2	0.0	0.0			0.0					0.0	0.0
AF.3		-10.0		-2.0	0.0	-2.5					-14.5
AF.5		-20.0	2.6	2.6	-1.5	7.9	-8.4				0.0
AF.6		61.8	13.8		0.0		61.8	13.8			0.0
AF.611			13.8		0.0			13.8			0.0
AF.619		61.8	0.0		0.0		61.8				0.0

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OCV	Assets	Assets	Assets	Assets	Assets	Assets	Liabilities	Liabilities	Liabilities	Liabilities	Liabilities
B.10.3	0.0	1.0	-1.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.0
Total	0.0	0.0	-1.0	0.0	0.0	0.0					0.0
AN	0.0				0.0						0.0
AF.2	0.0	0.0			0.0	0.0				0.0	0.0
AF.3		0.0			0.0					0.0	0.0
AF.5		0.0			0.0					0.0	0.0
AF.6		0.0	-1.0		0.0		0.0	-1.0			0.0
AF.611			-1.0		0.0			-1.0			0.0
AF.619		0.0	0.0		0.0		0.0				0.0

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