THE TREATMENT OF GOVERNMENT EMPLOYEE PENSION FUNDS IN THE AUSTRALIAN NATIONAL ACCOUNTS[1]

National Accounts Branch, Australian Bureau of Statistics

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1. In implementing SNA93, the Australian Bureau of Statistics (ABS) faced the question of how to treat unfunded superannuation schemes relating to general government employees. In Australia, unfunded schemes in the general government sector that offer defined benefits have historically been a significant component of the social security arrangements. This note describes typical unfunded superannuation arrangements relating to many general government employees in Australia and explains the treatment of these arrangements in the Australian System of National Accounts (ASNA). A number of issues associated with this treatment are considered. In particular, and consistent with funded schemes, we believe that assets and liabilities associated with unfunded pension schemes should generally be recorded in the sectoral balance sheets.

Background and SNA93 treatment

2. In the Australian context, superannuation schemes are essentially the same as pensions funds as described in SNA93. That is, pension funds

> "are those which are constituted in such a way that they are separate institutional units from the units which create them. They are established for purposes of providing benefits on retirement for specific groups of employees. They have their own assets and liabilities and they engage in financial transactions in the market on their own account. These funds are organized, and directed, by individual private or government employers, or jointly by individual employers and their employees; and the employees and/or employers make regular contributions." (paragraph 4.98)

3. The provision of superannuation by employers fits the SNA93 definition of a social insurance scheme. SNA93 notes that:

> "The schemes themselves are intended to cover beneficiaries and their dependents during their working lives and usually also into retirement..." (SNA93, paragraph 8.58)

[1] This paper updates a previous ABS paper on this topic, which was presented to the 1999 OECD Meeting of National Accounts Experts.

Further,

> "Thus, social insurance schemes are essentially schemes in which workers are obliged, or encouraged, by their employers or by general government to take out insurance against certain eventualities or circumstances that may adversely affect their welfare..." (SNA93, paragraph 8.61)

4. Paragraph 8.63 identifies three main types of social insurance schemes:

a) Social security schemes operated by government units (such as the types in many European countries);

b) Private funded schemes. These can be of two types:

> Operated through independent insurance companies or autonomous pension funds;
>
> Operated within a company. These are referred to as non-autonomous pension funds and the companies that operate them maintain special reserves for the purpose of supplying social benefits in the future.

c) Unfunded schemes. In these schemes:

> "employers pay social benefits to their employees, former employees or their dependents out of their own reserves without creating special reserves for the purpose." (SNA93, paragraph 8.63)

5. The reserves of non-autonomous pension funds are treated in SNA93 as assets that belong to the beneficiaries and not to the employers. SNA93 does not suggest that unfunded pension schemes should be recognised on the balance sheet. However, in paragraph 13.88 it recommends that the 'present value to households of promises by these schemes to pay future pension benefits' should be recorded as a memorandum item on the balance sheet.

6. In Australia, a range of different types of superannuation schemes exists to provide retirement income for general government employees. However, most governments operate, or used to operate, superannuation schemes for their employees that are unfunded or only partly funded. A number of general government schemes have one component funded through direct employee contributions, and another (the employer's contributions) that is unfunded. Under such schemes employee contributions are redeemed upon retirement date, with employer contributions paid in the form of a pension. If such schemes are viewed as a whole, as they are from the perspective of the employee, the schemes could be seen as permanently under-funded. Alternatively, where the two components are viewed separately, both a funded scheme (relating to the employee contribution component) and an unfunded scheme (relating to the employer contribution component) exist. Other general government schemes comprise only an unfunded employer component. Increasingly, superannuation schemes for

general government employees in Australia are becoming fully funded. Nevertheless, the main schemes for the largest general government employer -- the Commonwealth (Federal) government -- remain unfunded.

7. Prior to the implementation of SNA93, the flow of pension benefits of an unfunded scheme to households in relation to ex-general government employees was recorded as part of compensation of employees in the ASNA. SNA93 (paragraph 8.72) recommends that imputed employer social contributions should be recognised as part of compensation of employees. These contributions fund the benefits to be paid in the future. Estimation of the value of the contributions is difficult and, while in principle it should rely on actuarial type considerations, SNA93 (paragraph 8.73) suggests that the contributions may need to be estimated using the value of benefits actually paid during a period as a proxy. Because the unfunded schemes are not shown on the balance sheet, SNA93 (paragraph 8.74) recommends that the same amounts be recorded, in the secondary distribution of income account, as a payment from the employees back to their employers, as if they were paying them to a separate social insurance scheme.

The Australian treatment of unfunded superannuation schemes

8. Consistent with SNA93 and consistent with the treatment of funded schemes, the ABS makes an imputation for the employer's contributions implicitly required to fund future benefit payments from unfunded schemes. This imputed amount is treated as part of compensation of employees. Contrary to SNA93 recommendations, households are then considered to invest these contributions in a financial asset, which is recorded in the financial account. The unfunded schemes are included in the balance sheets for the household sector (as an asset) and the general government sector (as a liability). Withdrawals of pension from these schemes are also treated as financial transactions, that is, as withdrawals from a financial asset and recorded in the financial accounts. A consequence of adopting this treatment is that saving is presented appropriately in the Secondary Distribution of Income Account and in the Use of Income Account and it is therefore not necessary to apply the 'Adjustment for the change in net equity of households on pension funds'. This adjustment is only necessary where contributions and pensions related to private funded and unfunded social insurance schemes are treated as social contributions and social insurance benefits respectively and therefore impact (inappropriately) on saving in the Secondary Distribution of Income Account and in the Use of Income Account.

9. In seeking to implement SNA93 in the Australian national accounts the question arose as to why unfunded superannuation schemes run by general government employers should be treated differently from non-autonomous pension funds run by general government employers with regard to the recognition of financial assets and liabilities in the balance sheets of the general government and household sectors. A possible rationalisation is that there is a greater degree of uncertainty attached to the future payments of pensions by an employer that has not made the necessary contributions into a separate fund at the time that the liabilities arise. Moreover, it could

be argued that under some circumstances (for example, the attainment of the minimum retirement age) this uncertainty was sufficient to make the assets and liabilities in relation to unfunded pension schemes contingent in nature. While this argument might possibly have some merit in the case of individual employers in the private sector, there is no material difference between non-autonomous pension funds and unfunded pension schemes in the general government sector in Australia.

10. Even those employees who resign from general government employment in Australia generally have the option to preserve their entitlement to receive a government pension when they reach retirement age, which is in addition to their own contributions plus accumulated interest on those contributions. Even if such 'preservation' options are not taken by employees, they often receive a pay-out from the employer relating to the unfunded component. In some instances, when a person transfers to another employer, a payment equal to the unfunded component may be paid from the government employer to the new employer. (Obviously, in such cases the person cannot also avail themselves of the preservation option!)

11. There are a number of considerations that support the case for recognising financial assets and liabilities in relation to unfunded pension schemes run by general government employers in Australia. First, the level of benefits in such schemes is explicitly defined and relates to length of service, age on retirement and final salary on retirement. While governments from time to time may change the level of benefits being offered by their unfunded pension schemes, such changes in the Australian context have been in relation to future employees, with existing employees being allowed to continue under the previous arrangements. In some cases employees are given the option to stay with the old scheme or move to the new scheme.

12. Second, as already mentioned SNA93 recommends that the liability in relation to unfunded pension schemes should be recorded as a memorandum item. The fact that the unfunded schemes are recognised at all and the fact that it is thought that a liability and a corresponding asset could be recorded in the balance sheets of general government and households respectively, if only as a memorandum items, seems to indicate a tacit acceptance by SNA93 that a liability does exist. Indeed it is hard to allow the existence of imputed contributions and benefits for unfunded schemes that offer defined benefits without recognising that a liability to pay the benefits must exist.

13. Third, the liabilities associated with unfunded pension schemes are recorded in the financial accounts of the Federal and State governments in Australia. In Australia, the existence and the level of the liabilities of unfunded pension schemes have been highlighted by State and Federal Auditors' General. It is thus difficult to argue that these liabilities are contingent when the general government employers treat future pensions as actual (that is, as on-balance sheet liabilities), while employees in these schemes receive annual statements quantifying the value of their contributions, interest income, total assets and other details. Further, this practice is fully consistent with the principles of accrual accounting and is becoming more widespread internationally. The Government Finance Statistics Manual (2001) states that:

> "Retirement schemes for government employees and their dependents and other beneficiaries are treated differently. There are three types of employer retirement schemes: autonomous pension funds, non-autonomous pension funds, and unfunded retirement schemes. Autonomous and non-autonomous pension funds hold reserves dedicated to the payment of pensions and other retirement benefits to the employees of general government units and their dependents or other beneficiaries. Both types of funds have liabilities equal to the present value of the promised benefits. An unfunded retirement scheme does not hold reserves dedicated to the payment of benefits, but the general government unit operating the scheme does have a liability equal to the present value of the promised benefits, just as with autonomous and non-autonomous pension funds. The property expense attributed to insurance policyholders for all three types of schemes is a component of the change in the scheme's liability." (paragraph 6.78)

14. As a result of these considerations, unfunded pension schemes are recognised on the balance sheet in the ASNA.

Implementation issues regarding unfunded superannuation schemes

15. Having made the decision to record liabilities and assets associated with unfunded pension schemes for general government employees in the sectoral balance sheets, a number of further issues were raised concerning the method of estimating the imputed employer contributions and the balance sheet entries.

16. First, consideration was given to adopting the SNA93 suggestion that actual pension payments could be used as a proxy for the employer contributions. This proposal was regarded as unsatisfactory because over long periods of time it would provide a very inadequate estimate of the accruing liability[2]. During periods when the number of employees in the general government sector in Australia was growing rapidly, such as in the 1960s and 1970s, actual pension payments would be much lower than the accruing liability for future pensions. With the recent move by many government units in Australia to institute fully funded pension schemes for all new employees, there would be a long period during which actual pension payments arising from the old unfunded schemes would exceed the liability accruing for those employees still working who remained covered by the old (unfunded) schemes. At some point the general government employers would not be accruing any further liabilities under unfunded schemes, but pensions related to such schemes would continue to be paid for a number of decades to retired former employees. Furthermore, changes in the demographic characteristics of both current and former government employees would also create distortions.

[2] It is interesting to note that if the SNA93 practical solution is adopted for all time periods, then there could be no asset / liability associated with unfunded pension schemes.

17. Second, should the whole of the accruing liability to pay future benefits be treated as compensation of employees or should two imputations be made - one for imputed employer contributions and a second for imputed property income on the outstanding liability to pay future pensions? The Australian view is that, since unfunded schemes are basically the same in principle as funded schemes, part of the total accruing liability should be treated as property income. In effect, the general government employer is "borrowing" the money that it would otherwise have paid into the schemes, and interest should be payable on the "borrowed" amount. For the purposes of deriving the imputed flows on account of general government unfunded superannuation, a notional superannuation 'fund' is created which is treated as a financial asset of the household sector and a liability of the general government sector. Consistent with the operation of funded schemes, imputations are derived for both the employers' contributions to the notional fund and property income on the notional use of the assets of the fund in each period by general government.

18. Only the imputed employers' contributions are included in compensation of employees, government final consumption expenditure, and GDP. However, both components impact on household and general government saving. This approach ensures that government final consumption expenditure and GDP are not affected by whether general government superannuation schemes are funded or unfunded. It is also consistent with actuarial methods (which involve discounting expected future benefits payable) of determining employer contributions and balance sheet positions.

19. Consequently, it was decided to use actuarial-type calculations to estimate the transactions relating to unfunded pension schemes and the balance sheet positions. At least with regard to the former, this is consistent with SNA93 paragraph 8.72 which includes the statement:

> "Thus, the values that should be imputed for the contribution ought, in principle, to be based on the same kind of actuarial considerations that determine the levels of premiums charged by insurance enterprises." (SNA93, paragraph 8.72)

20. A brief description of the model used to undertake the initial set of calculations is provided in Appendix A. The model utilises point-in-time actuarial calculations by the State and Commonwealth Treasuries of their unfunded superannuation liabilities. The method of estimating employer contributions was initially adopted to compile an historical time series going back some five decades. The most recent data are now routinely provided by each government as part of their accrual accounting obligations. These data, a sample of which appears in Appendix B, are compiled using a methodology which is fully consistent with the ASNA treatment.

21. Another significant practical issue is the treatment of changes to the estimated unfunded liability at the end of each financial year which are due to changes in the assumptions used in the actuarial calculations undertaken by the State and Commonwealth Treasuries or which arise because of changes to the benefits available under those unfunded schemes. The various government Treasuries update their

calculations each year and it is therefore possible that actuarial assumptions and/or defined benefits will change in respect of these schemes. In our view, such changes should be treated as revaluations (in the case of changes in benefits) or other changes in volume (in the case of changes in actuarial assumptions), rather than being reflected in the imputed employers' contributions to superannuation and/or the imputed property income flow for the latest period. (In practice, the information needed to make the split is not readily available, so the two entries are currently combined in the ASNA. We are aiming to make the split in the future. However, as changes to benefit arrangements are rare, most of the non-transaction change in the value of the unfunded liability is due to changes in actuarial assumptions.)

The treatment of funded defined benefit schemes

22. Another issue that arose in compiling the Australian national accounts on an SNA93 basis is how to treat transfers from a funded defined benefit scheme back to the employer from a fund that is in surplus. SNA93 provides the following definition for defined benefit schemes:

> "Defined benefit pension plans are those in which the level of the pension benefits promised to participating employees is guaranteed." (SNA93, paragraph 13.78)

This paragraph goes on to state that:

> "The liability of a defined benefit pension plan is equal to the present value of the promised benefits." (SNA93, paragraph 13.78)

23. SNA93 recognises that defined benefit schemes can be over or under funded, that is, the scheme's reserve assets may be either greater or less than the present value of future benefits. Any such difference is treated in SNA93 as positive or negative net worth of the scheme. SNA93 notes that this situation should be temporary, with a correction achieved through an adjustment to contributions. The ABS has interpreted SNA93 as recommending that both positive and negative adjustments should be made through current (and possibly future) employers' contributions rather than by revising employers' contributions for past periods. A consequence of this is that the time series for employers' contributions to superannuation funds can be affected by one-off "corrections", either positive or negative, relating to defined benefit schemes that were shown to be in deficit or surplus at the end of the previous accounting period and for which the relevant employers chose to make corrections. Where such corrections relate to employers in the non-market sector, GDP will be affected.

Conclusion

24. Unfunded pension schemes in the Australian context apply only to unfunded general government superannuation schemes that offer defined benefits. SNA93

implies that the benefits to be paid under unfunded pension schemes represent a liability of the employer and an asset of households, but recommends that this liability and the corresponding asset be included only as memorandum items on the sector balance sheets. It has been argued in this paper that the assets and liabilities associated with unfunded pension schemes, at least where there is a high degree of certainty regarding the eventual payment of pensions, should be treated in a similar manner to funded schemes and recorded in the sectoral balance sheets. Such an approach is fully consistent with the accruals-based system of accounting (as recommended in the Government Finance Statistics Manual (2001)) that has been adopted by governments in an increasing number of countries. There appears to be a strong case for updating SNA to accord with the most recent international standards on government financial accounting.

Appendix A

EXPLANATION OF THE ABS UNFUNDED SUPERANNUATION MODEL

The model was set up to estimate (1) accrued superannuation expense and (2) accrued interest on the nominal superannuation debt for the general government sector for all jurisdictions prior to periods for which the jurisdictions themselves have been able to provide estimates.

For each accounting period the following identity is considered to hold:

a) Liability at beginning of period;

b) *plus* Accrued expense;

c) *plus* Accrued interest on the liability;

d) *minus* Cash payments of benefits;

e) *equals* Liability at end of period.

Sources of data and methods of calculation

<u>Liability at end of period:</u> For the latest period, ‘Unfunded employee entitlements’ from the latest issue of Public Sector Financial Assets and Liabilities (ABS Cat. No. 5513.0) was taken as the starting point in the calculations (that is, the outstanding amounts, calculated using actuarial methods, reported by State and Commonwealth Treasuries). For the Commonwealth, an adjustment was made to remove claims on general government for unfunded liabilities relating to public non-financial corporations. For earlier years the model backcasts to calculate all other end-of-year and beginning-of-year balances.

<u>Accrued expense:</u> For the Commonwealth, a weighted average of implicit employer contribution rates for different schemes was calculated, based on data from the Commonwealth Government Actuary in respect of a number of years. For each year, this average contribution rate was applied to ABS estimates of public sector wages and salaries. For all other jurisdictions, accrued expenses were calculated as a residual so that the sum of expenses plus interest minus payments over the time series equaled the relevant unfunded liability estimate for the latest period.

<u>Accrued interest on the liability:</u> For the Commonwealth, the bond rate was initially used to calculate the interest liability for each period. However, when using this rate the sum of expenses plus interest minus cash payments of benefits over the time series was greater than the change in the Commonwealth’s unfunded liability

estimate over the latest period. Accordingly, for the period affected by this methodology, an adjustment was applied to the bond rate each year to achieve equality (that is, for the Commonwealth, accrued interest is calculated as a residual). This adjusted Commonwealth rate was then used in the calculation of accrued interest for all other jurisdictions.

<u>Cash payments of benefits:</u> Cash pensions paid in respect of employee superannuation, obtained from government records.

Appendix B

SUMMARY OF DATA RELATING TO AUSTRALIAN GOVERNMENT EMPLOYEE UNFUNDED SUPERANNUATION SCHEMES -- 2000-01

The following table shows, for 2000-01, a summary of the major aggregates relating to Australia's government employee unfunded superannuation schemes. The table separately identifies results for funds relating to Commonwealth (Federal) and State tiers of government.

2000-01						
$ million (Aust.)	Opening balance	New contributions (compensation of employees)	Interest	Pensions paid	Revaluations / other changes in volume	Closing balance
Commonwealth government	75,802	1,453	4,878	3,344	-64	78,725
% of Commonwealth government liabilities						45
State government	37,312	3,979	2,465	3,606	1,314	41,464
% of State government liabilities						47