Accounting for Liabilities of Social Security Systems - DRAFT

A Paper from the IAA Social Security Committee

Introduction

A number of proposals and requirements related to the reporting of social security retirement system (SSRS) liabilities in national accounts have been promulgated by agencies such as the International Public Sector Accounting Standards Board (IPSASB), the International Monetary Fund (IMF) and Eurostat. Currently, none of such reporting specifications require the inclusion of SSRS liabilities in the core national accounts or main financial statements, and therefore those liabilities are not considered to be part of government debt. However, such liabilities are expected to be disclosed as supplementary information.

This paper discusses different definitions of SSRS liabilities and assets and their usefulness when applied to various public pension financing strategies (pay-as-you-go and partially funded) other than fully-funded approaches (e.g., fully invested defined contribution plans, such as provident funds). Further the paper discusses how the financial and statistical reporting of SSRS liabilities is related to long-term sustainability of such systems and gives an overview of the main limitations of closed-group approaches for SSRS. Finally, it presents the IAA position on the methodological aspects of accounting for liabilities of social security systems and proposes disclosure requirements.

As a main principle, we believe that the method used to report SSRS liabilities should be consistent with the financing method for the system. More particularly, we will argue that for a system that is partially funded or pay-as-you-go, the calculation of the net liabilities of the SSRS should be on an open-group basis, that is it should recognize future contributions and benefits of both current and future participants. The closed group valuation (i.e. looking at accrued benefits only for current participants) is appropriate only for SSRS that are fully invested defined contribution plans or are meant to be fully

funded (i.e. to have tangible funds that at any time are sufficient to cover accrued benefits under the system).

As a second principle underlying this paper, we argue that, for national SSRS, financial sustainability, i.e., the ability of a social security pension scheme to raise the financial resources necessary to meet all of its future pension costs, is a more important goal than the level of funding, i.e., the level of reliance of a social security pension scheme on its current investable assets to finance future pension costs. Further, the level of funding (which is calculated as the ratio of investable assets to closed group liabilities) may not be correlated with sustainability. In fact, pay-as-you-go systems, which by definition have a low funding level, could be financially sustainable as long as their future financial commitments are fully met by future financial resources. A financial system with investable assets equal to accrued-to-date actuarial liabilities, i.e., having a 100% funding level, may not be financially sustainable in the long term.

The IAA urges all players and organizations in the field of the financial and statistical reporting of SSRS to ensure that calculations which are by nature actuarial are performed by qualified actuaries in compliance with practice standards. While we recognize that the work for a SSRS is sometimes undertaken by other social security professionals (e.g. economists), the IAA strongly advocates the involvement of qualified actuaries. Rge IAA urges all stakeholders to ensure that the work of all social security professionals comply with actuarial practice standards and follow the rules of professional conduct.

Finally, the IAA would like to emphasize the need for effective communication and disclosure of information. The information provided should be aimed at supporting decisionmakers and enhancing meaningful cross-countries comparision. Further, and most importantly, the disclosed information should minimise the risk of misinterpretation of results: solely presenting figures that do not bear direct relation to the degree of sustainability of a social security program raises concerns about the interpretation that the media might put on this and where it might lead the course of public opinion. Therefore, the IAA proposes that requirements for multiple and comprehensive disclosures should be mandated.

This paper excludes directly government-financed national health services, long-term care, unemployment programs, pension plans for government employees and workers' compensation systems. We will be looking at national SSRS only.

We would like to see a clearer distinction made between social security on the one hand and "government-sponsored benefits" on the other, the latter referring to benefit programs where the government is acting as employer for public-sector workers. Provision of pension and other benefits where a government is acting as the employer and providing benefit programs solely for government or public sector employees is similar to those provided by private-sector employers for their employees and accounting disclosures should be analogous to requirements on private sector plans (although not based on market interest rates if there are no investments – see section on discount rate for SSRS below).

The term "social security" would then be confined to public benefit systems that apply to the whole population or significant subsections of the population. Within the social security system universe it is important to make a further distinction between SSRS that are financed by contributions and those that are financed by general tax revenues. The latter programs frequently provide for some kind of minimum benefit, or a universal, residence-based or mean-tested benefit. While we will discuss briefly these programs in the paper, the main focus will be on contributory SSRS.

Definitions of SSRS liabilities and assets

In this section we provide three possible definitions of liabilities and assets for contributory social security systems. The difference between liabilities and assets will be called the *net pension liability*. Chart 1 illustrates these concepts.

The first definition uses a *closed group approach without future accruals*. Under this approach, the liabilities are equal to the present value of all future benefits to existing pensioners and all accrued rights of current contributors/taxpayers. On the assets side, there is the amount of the existing reserve of the pension system (i.e., any investable assets). This definition follows a strict private pension concept and may, therefore, be inappropriate for SSRS. The difference between the liabilities and the assets is the net implicit pension liability. This net pension liability represents the additional resources that would be required to close down a SSRS (e.g., in order to start a new one) while honouring all past commitments. i.e. a termination reserve. The liabilities determined under the closed group approach are being required to be disclosed from the end of 2017 in the supplementary Table 29 under the Eurostat pension exercise (called accrued-to-date pension liability) in accordance with the European System of National and Regional Accounts 2010 (the ESA 2010).

The second definition relates to a *closed group approach with future accruals*. Under this approach, the liabilities are equal to the present value of all future benefits to existing pensioners and all accrued and future rights of current contributors/taxpayers. On the assets side there is the amount of the existing reserve of the pension system (i.e., any investable assets) plus the present value of future contributions with respect to future benefits of current contributors/taxpayers. This definition corresponds to the situation when the system becomes closed to new entrants but honours accrued and future rights for existing participants. This approach is sometimes referred to as the insurance approach and was presented as one of the options in IPSASB Consultation paper "Recognition and Measurement of Social Benefits"[1].

Finally, there is the *open group approach* which takes into consideration all current pensioners and contributors as well as future contributors to the social security pension scheme, including their future contributions and associated benefits, to determine whether the current scheme's reserve and future contributions (assets) will be sufficient to pay for all future benefit expenditures (liabilities).

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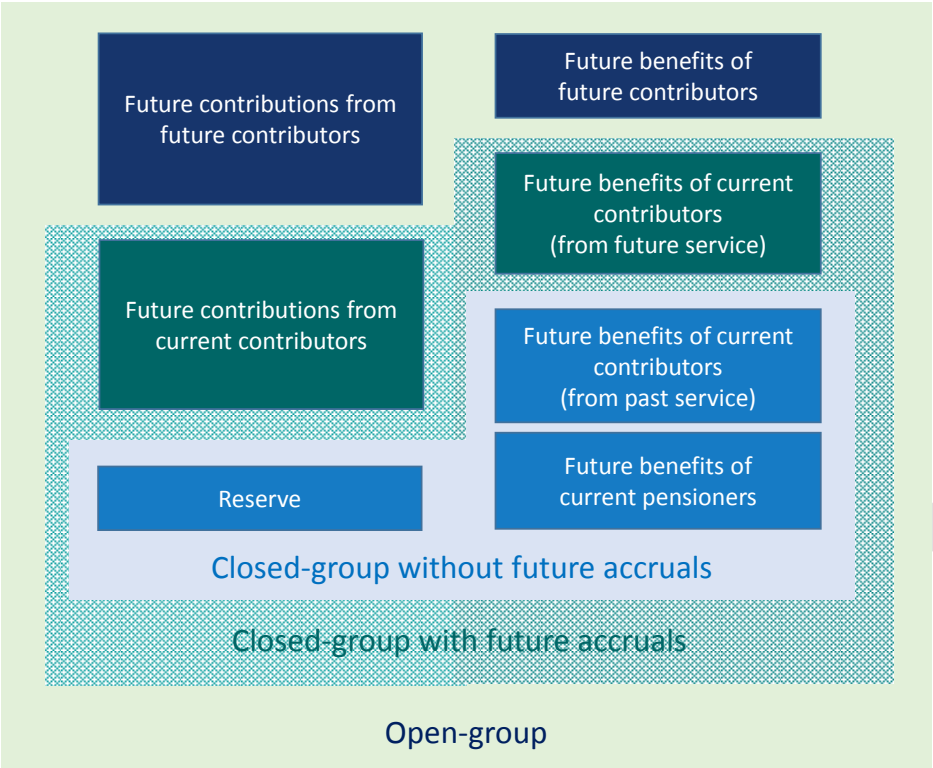
[1] https://www.ifac.org/publications-resources/recognition-and-measurement-social-benefits

Chart 1 SSRS Liabilities and Assets under Closed and Open Group Approaches



Nature of SSRS and their long-term financial sustainability

SSRSs are conceptually different from occupational pension plans, both from the ideological and financing points of view. The majority of SSRSs are based on societal commitments and contracts within and between generations.

Unlike employer-sponsored plans, accrual of benefits is not always very closely linked to payment of contributions, since not all years necessarily count for additional accrual and some accrual may be deemed rather than actual, in order to allow for periods of sickness, maternity, education or care-giving. In addition, social security contributory schemes might include other redistributive features, such as minimum pension supplements. Therefore, the link between benefits and contributions is not considered sufficiently strong to give rise to a financial claim on the part of contributors. This is even more pronounced in the non-contributory SSRS where qualifying conditions often depend on residency (past and current) and/or income (or assets) of an individual.

Further, the design and financing of SSRS are often driven by country-wide demographic variables such as fertility, migration and mortality and are related to overall economic growth. Because of that, social security benefits, and the terms under which members of the population become eligible for benefits (such as retirement age) can be changed either by the government as part of its overall economic policy or through so-called automatic adjustment mechanisms. There is therefore uncertainty about the timing of eventual payment or the level of payment of these social benefits. Once again, this is even more true for a non-contributory SSRS. On the other hand, many jurisdictions provide legal protection for accrued benefits under occupational pension plans.

Thus, for SSRSs, which are based on extensive risk pooling within and between generations, full funding is not necessary.

As a result, the majority of defined benefit SSRS are financed using pay-as-you-go or at most partially funded approaches. By definition, this means that, by design, no major SSRS around the world has a termination level of reserves (i.e. full funding under the closed group approach). On the other hand, occupational pension plans are usually required to be fully funded on the termination basis, other than unfunded or partially funded plans for public sector employees. Such a requirement is driven by the fact that a private company can go bankrupt at any moment, or be unable to finance accruing benefits in an occupational pension plan, so that plan participants need to be protected. However, it is unrealistic to assume that a SSRS could suddenly cease, resulting in a cessation of contributions, other than in extreme circumstances such as war or invasion (even then it may be just temporary suspension of contributions).

Under pay-as-you-go and partial funding financing approaches, current contributors allow the use of their contributions to pay current pensioners' benefits. This implicit social contract creates claims for current and past contributors to the contributions of future contributors. Therefore, social security financing is adequate if projections indicate that, in each period, revenues (contributions plus investment income) are sufficient to meet benefit payments.

Therefore the most appropriate assessment of the financial sustainability of pay-as-you-go and partially funded pension systems is achieved under the open group approach which explicitly accounts for the above claims, while the closed group approach does not reflect those claims.

Measuring and monitoring the long-term financial sustainability of any SSRS is crucial so that it continues to fulfil its role in providing retirement benefits to large segments of the population. However, the notion of the pension debt under the closed group approach has little relevance as an indicator of the overall financial status of a SSRS or, for that matter, its sustainability.

Most importantly, long-term sustainability assessments should be primarily done through actuarial valuations in accordance with generally acceptable actuarial principles. In particular, according to the IAA model International Standard of Actuarial Practice No 2 (ISAP2) "Financial analysis of social security systems"[2], the methodology used to assess the system status should be consistent with the financing method used for the SSRS. In particular, ISAP2 states that for pay-as-you-go or partially funded SSRS, the analysis should use an open group methodology, under which contributions and benefits of both current and future participants are considered.

ISAP2 is a model standard, since the role of the International Actuarial Association is to set model standards, so that individual actuarial associations around the world can use them as a basis for introducing broadly comparable national standards to apply to their members. In the case of ISAP2, standards have been introduced by the Canadian Institute of Actuaries, the Caribbean Actuarial Association. The US is reviewing the existing national standard for compliance and other associations are considering how and when to introduce a standard. The standard is promoted by the joint ISSA-ILO Guidelines for Actuarial Work for Social Security Institutions and is expected to be followed in the absence of relevant national standards in financial analysis of social security plans.

It should be noted that many SSRS do not mandate a comparison of open group liabilities and assets as a direct measure of long-term sustainability of the SSRS (even if it could theoretically be a useful measure). However, methodologies employed in the actuarial valuation of the SSRS involve projections of future cash flows of revenues and expenditures for both current and future program participants. Examples of such methodologies include the steady-state method used in Canada for the Canada Pension Plan, the actuarial balance method used in the US for Old-age, Survivor and Disability Insurance and the general average premium method used for many countries where the International Labour Organization has helped to establish SSRS, etc.

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[2] http://www.actuaries.org/CTTEES_ASC/isaps/Final_ISAPs_posted/Conformance_Changes_Final_ISAPs_posted/ISAP2_Conformance_April2017.pdf

Limitations of the closed group approach for SSRS

As mentioned earlier, the notion of net pension liability under the closed group approach is not relevant as an indicator for the overall financial status of a pay-as-you-go or partially funded SSRS or its sustainability.

Additional key issues, especially in the context of using these numbers to compare different systems and countries, are as follows:

- The level of accrued-to-date liability does not allow the assessment of the long-term financial sustainability of pension schemes. In fact, two national social security pension schemes with the same accrued-to-date liability may have very different financial status. For example, they might be subject to a different expected future evolution of demographics and economics or they might be at different levels of financing[3].
- It does not assess the full impact of pension reforms. Any change in the value of the accrued-to-date pension liabilities resulting from a pension reform would only incorporate the impact on current pensions in payment and future pension payments which correspond to the accrued-to-date benefit entitlements of current contributors. However, typically, the largest financial impact of pension reforms is with respect to future pension payments which correspond to the future service benefit entitlements of current contributors and the pension benefits of new workers. This means that, under the closed group methodology, the financial impact of pension reforms could be significantly underestimated.
- It causes comparability issues in relation to pension scheme maturity. When the accrued-to-date pension liabilities with respect to various countries are compared, it is important to note that the size of accrued-to-date pension liabilities would depend on the stage of maturity of the national social security pension schemes. Countries with mature pension systems may have large accrued pension liabilities, but they might be financially sustainable when considering the net pension liabilities under the open group method. On the other hand, for countries which operate a relatively new social security pension system which may have low accrued-to-date pension liabilities, this does not mean that the scheme is in a good financial position when considering the net pension liabilities under the open group method.

[3] For example, see slide 9 of http://www.osfi-bsif.gc.ca/Eng/Docs/OCA-Assia-Billig-03092016-Slides.pdf and associated speaking notes http://www.osfi-bsif.gc.ca/Eng/Docs/OCA-Assia-Billig-03092016-notes.pdf

- It creates a bias for or against a particular financing approach. A system which is fully funded on a closed group basis may be unsustainable, while a pay-as-you-go scheme on an open group basis might be sustainable. However, if the accrued-to-date net liabilities are used, the opposite perception would be created.

The important corollary of the above points is that reporting a single number on the closed group approach creates serious communication and misrepresentation issues.

Each country chooses the mix of financing approaches, pay-as-you-go and pre-funding, which best suits its economic, demographic, social and political environments. The aim of any reporting system, be it for national use or under international pension reporting standards, should be to present appropriate country statistics in a way that enables proper policy decisions and comparison, and not to encourage one financing approach or another. Under the closed group pension reporting methodology (for example as used by the Eurostat), countries with a lower level of pay-as-you-go component or higher degree of prefunding in their pension systems exhibit a more favourable picture, since they produce relatively lower figures for net pension liabilities.

In general, the size of net pension liabilities on the closed group reporting basis is likely to be very large for the majority of countries, since they primarily rely on pay-as-you-go or partially-funded social security pension schemes. For example, in the Euro area, as suggested by a study undertaken by the European Commission (Eurostat)/ECB Task Force on Pensions[4], it is estimated that the closed group pension liabilities of social security in the Euro area is about 280 percent of GDP, which is approximately four times higher than the government debt. In particular, the social security pension debt for Germany is estimated at the level of 275 percent of GDP, while for France and Italy it is 292 and 322 percent of GDP, respectively. The extremely large magnitude of this theoretical liability, which doesn't bear any relation to the degree of sustainability of a social security program, raises concerns about the interpretation that the media might put on this and where it might lead the course of public opinion.

It follows that if those numbers are disclosed without sufficient and proper explanation, they could be misused or misinterpreted by media and other external users, create an unwarranted negative public opinion perception of the social security system, and may even lead to decisions that will adversely affect the well-being of society as a whole. In

[4] R. Mink, Household pension entitlements under government schemes in the euro area, 2010 http://www.ecb.europa.eu/events/pdf/conferences/fip/Presentation_Reimund_Mink.pdf?228f5f6df905607229f768e8a4ea7634

addition, if we take into account the sensitivity of such an indicator to certain key demographic and economic assumptions, such as the discount rate, the production of a single figure for accrued pension obligations would potentially increase even more the risk of misinterpretation by the media and other users.

IAA Position

As it stands now, the application of the proposed accounting guidelines with respect to SSRS does not affect directly the value of national debt figures. However, the required disclosures are mostly focusing on the accrued-to-date (closed group) liabilities (gross or net) and may be misleading for decision-making and be misused by opponents of a particular SSRS.

Therefore, the IAA recommends the following.

1. The methodologies used for accounting and/or statistical reporting should enable accurate assessment of the long-term financial sustainability of any SSRS without a bias for or against a particular financing approach. It would be more informative for decision-makers if the accounting and national reporting treatment were aligned with the financing methodology, especially when programs are financed using pay-as-you-go or partial funding. For pay-as-you-go or partially funded SSRS, full sustainability information should include the expected benefit payments and also contribution income in respect of future participants (i.e., an open group).

2. All disclosed information with respect to SSRS liabilities should be accompanied by information about the corresponding assets, both investable assets (reserves) and future contributions.

3. Disclosures should be aimed at providing all stakeholders with accurate, appropriate and comprehensive information that enables informed decisions to be made. The information on the financial status of a social security pension scheme should serve the key objective of educating readers and should not confuse or mislead them. As such, disclosures for contributory SSRS should include at least the following items:

    a. Description of the financing approach and actuarial measures used to assess the financial sustainability of the SSRS, as well as the main results

of the latest actuarial report assessing the financial sustainability of the SSRS;

b. Illustration of sensitivity of actuarial measures to future changes in economic and demographic environments;

c. Liabilities and assets on a basis that is aligned with the financing methodology;

d. In the case where there is a requirement to disclose liabilities and assets on a closed group basis, such disclosures should be supplemented by numbers prepared on an open group basis, with reconciliation between the two sets of numbers and an explanation of how to interpret the figures properly. In other words, a multiple disclosure approach could be mandated.

An example of such disclosures can be found in Public Accounts of Canada for the Canada Pension Plan.

4. For pure non-contributory SSRS that are financed from general tax revenues, due to the often conditional nature of its benefits and the general ability of governments to change future benefits and entitlement, it is not appropriate to show a single liability figure. At the same time, it is important to address the future cost of these programs for taxpayers. As such, actuarial projections of future cash flows should be prepared on a regular basis. For cross-country comparability purposes, expressing the cost of such programs as a percentage of the future Gross Domestic Product (GDP) is useful. This is the approach taken by the European Union Ageing Working Group of the Economic Policy Committee, for example, when it prepares its triennial Ageing Report[5].

5. For contributory SSRS that provide minimum income guarantees and other non-contributory benefits which are financed by earmarked tax revenues (state contributions), the information for contribution-financed benefits and tax-financed benefits should be presented separately. Such an approach will enable proper country comparisons and will avoid a bias against hybrid systems that have both contributory and non-contributory elements.

6. Qualified actuaries should be involved in performing all calculations involving the calculation of actuarial liabilities and cash flow projections for a SSRS.

[5] The Ageing Report 2015. Economic and Budgetary Projections for the 28 EU Member States 2013-2060 http://ec.europa.eu/economy_finance/publications/european_economy/2015/pdf/ee3_en.pdf

7. Qualified actuaries should be involved in all future discussions in respect of the national or international accounting and statistical reporting for SSRS.

Remaining Issues

Discount Rate

Several proposals point towards use of government bond yields for discounting the benefit payments and future contributions, since this would be consistent with what is done for employee benefits. We consider that market-based spot bond yields are not appropriate for placing a present value on unfunded SSRS liabilities which are to be financed out of future contributions and/or tax revenues. Market considerations are not relevant where no assets are held. The cost to government of underwriting future benefits is more related to the government's tax-raising capacity and hence to future economic growth and growth of the tax base. Moreover, the inappropriateness of using bond yields is shown by the fact that there is an inverse relationship between the yield on government bonds and credit rating of sovereign debt. For countries in a precarious economic position, the cost of borrowing of the government will be high, resulting in smaller SSRS liabilities. On the other hand, countries with good economic prospects will have a lower discount rate and show larger future liabilities.

The economic basis for discounting would point to using the real growth of GDP or the real growth of the wage mass (or the contributions base for a contributory system) or growth in the real tax base.

For programs that are financed in part by investment income, the discount rate might be based on the future expected real return on the assets, adjusted for risk.

Length of the Projection Period

In the last year of the projection period, the latest cohorts of participants included in the projection will have paid contributions for some time but the benefits to which they will eventually be entitled are not yet paid. Hence, if the projection period is too short, part of the scheme's expenditures for cohorts who will enter the labour force during the projection period are excluded from the liabilities. On the other hand, after a certain number of years, the effect of adding additional projection years has a negligible effect because of the discounting effect. The Office of the Chief Actuary of Canada uses a projection period of 150 years, and shows that adding more years to the projection has only a marginal impact. It should be noted that, although increasing the length of the projection period enhances the results, it also increases the uncertainty of these results.

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Valuation methodologies for redistributive features of the SSRS

As discussed, SSRS often contain the redistributive features such as deeming earnings over certain periods, or allowing certain periods of low earnings to be disregarded in the calculations of the benefits. Such provisions are absent in occupational pension plans. As such, the methodology used to calculate closed group liabilities should be adjusted to deal with such provisions. For example, in the Canada Pension Plan, up to 17% of one's lowest career earnings can be dropped in the calculation of the average career-adjusted earnings that form the basis of the retirement benefits calculation. In the case of mandated closed group calculations (i.e. assuming that the SSRS is terminated), the question is how such a period is to be allocated between the service before and after the valuation date. Such methodological questions should be addressed and the IAA will be happy to engage with interested parties to discuss these issues.

Conclusion

To conclude, SSRS are secured by intergenerational societal commitments. They should not be considered as comparable to large private occupational pension plans for accounting and statistical reporting purposes. We recommend the use of reporting approaches that are aligned with the financing approach of an SSRS. In particular, for pay-as-you-go and partially funded SSRS, the open group approach accounting for future new entrants to the system should be used. Finally, we recommend the use of multiple disclosures in order to provide all stakeholders with accurate, appropriate and comprehensive information that enables informed decisions to be made.

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