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Long-term Liabilities for Social Security and Employment Related Pensions

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LONG-TERM LIABILITIES FOR SOCIAL SECURITY AND EMPLOYMENT RELATED PENSIONS

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Summary

Social security and employment related pension schemes comprise significant (implicit) liabilities for most governments, and so it is imperative that an analysis of a government's debt and financial situation incorporate the best available data on such liabilities. The objective of this paper is threefold. First, the paper will briefly outline the current challenges in obtaining internationally comparable data on pension liabilities in OECD countries. These challenges revolve around the recording of pension liabilities in the national accounts and the consistency in how countries estimate their pension liabilities. Second, the paper will provide recommendations on how to address these challenges, involving the approach for completing the supplementary tables, i.e. table 17.10 of the SNA 2008 on pension liabilities, and a later proposal for having a complete overview of household retirement resources, as well as proposed financial/actuarial assumptions for estimating liabilities. Finally, the paper will briefly summarize the activities that are currently underway at the OECD to contribute towards the implementation of the aforementioned recommendations and to increase broader awareness of the estimation and recording of pension statistics.

[1] The authors would like to also acknowledge Philip Stokoe of the IMF for contributing to section 2.1 of this paper by providing content regarding the recording of pensions in the GFSM Framework.

1. Introduction

1. Government deficit and government debt have been key topics of political and economic discussions over the past decades, particularly in recent years following the global financial crisis and the Eurozone debt crisis. A rapidly aging population in most OECD member countries has increased the prominence of these discussions, as the increasing number of seniors in an economy is expected to lead to both lower tax revenues (whereby most seniors are retired and earn less than workers) and higher government expenditures on health care, old age security and pension benefits.

2. However, conducting a thorough analysis and making an informed decision on government finances requires, in addition to data on government income and expenditures, complete and accurate data on government assets and liabilities. The challenge in obtaining the latter data is that the measurement and recording of a government's balance sheet is complicated by the diverse nature of both assets and liabilities. Assets can be financial or non-financial in nature, varying in their ability to be resold at their nominal value and in their ability to generate income (or offset costs) that can help a government service its liabilities. Government liabilities can be explicit or implicit, varying in the extent to which a government is obligated to repay the principal and/or can adjust the flow of payments associated with the obligation (e.g. interest on debt, government program expenditures, or pension benefits). While the diversity of government finances reflects the challenges in collecting data in this domain, it also highlights the importance of having complete and comparable data on the implicit liabilities of governments in each country.

3. Social security and employment related pension schemes comprise significant (implicit) liabilities for most governments, and so it is imperative that an analysis of a government's debt and financial situation incorporate the best available data on such liabilities. The objective of this paper is threefold. First, this paper will briefly outline the current challenges in obtaining internationally comparable data on pension liabilities in OECD countries. These challenges revolve around the recording of pension liabilities in the national accounts and the consistency in how countries estimate their pension liabilities. Second, this paper will provide recommendations on how to address these challenges. The recommendations involve the approach for completing the supplementary tables, i.e. table 17.10 of the SNA 2008 on pension liabilities, and a later proposal for having a complete overview of household retirement resources, as well as proposed financial/actuarial assumptions for estimating liabilities. Third, this paper will briefly summarize the activities that are currently underway at the OECD to contribute towards the implementation of the aforementioned recommendations and to increase broader awareness of the estimation and recording of pension statistics.

2. Challenges in arriving at internationally comparable data on pensions

4. Below, in section 2.1, first issues in relation to the recording of pension entitlements will be discussed. These issues more specifically relate to the background of supplementary table 17.10 of the SNA 2008, the continuing discussion on the criteria for recognising and recording pension entitlements in the core system of national accounts, and the proposal for having an additional table on household retirement resources. Subsequently, in section 2.2, issues in relation to the actual measurement of pension entitlements will be dwelt upon.

2.1. Recording of pension liabilities in the national accounts

SNA 2008 and Supplementary Table 17.10

5. The recording of government's pension liabilities is defined by the System of National Accounts (SNA). SNA 1993 only recognised pension obligations for funded pension schemes. As a result, the

national accounts of most countries did not include the liabilities pertaining to social security and unfunded employment-related pension schemes. This meant that the information on pension entitlements (and therefore government debt) provided by national accounts was neither comprehensive nor fully comparable.

6. In the SNA 2008 some revisions have been made to the sections discussing the recording of pension schemes that will help further improve international comparability of these data. As discussed in Gruetz and Van de Ven (2014), the SNA 2008 now recognises that employment-related pension entitlements are contractual agreements that are expected to be enforceable. However, SNA 2008 provides some flexibility with respect to the recording of entitlements of pension schemes sponsored by government. To allow for the recording of social security and other pension entitlements that are not recognised as liabilities in the core system of national accounts, SNA 2008 also includes a requirement to report all explicit and implicit liabilities related to employment-related and social security pension schemes via a supplementary table, referred to as Supplementary Table 17.10.

7. There were three reasons for including Supplementary Table 17.10 in SNA 2008. First, the differences in institutional arrangements across countries, and their recording in the system of national accounts, led to a lack of international comparability of data on pension schemes. Second, unfunded employment-related pension schemes may be financially significant for the general government and the public sector. The large government expenditures related to economic stabilization and recovery from the recent financial crisis as well as the anticipated financial burden stemming from aging populations both highlight the importance of having complete and comprehensive statistical information pertaining to the future financial commitments of governments. Third, national accounts data would thus also become more consistent and aligned with international financial accounting standards, particularly the International Accounting Standards (IAS) and the International Public Sector Accounting Standards (IPSAS), when it comes to the recognition of unfunded employment-related pension obligations as liabilities.

8. The conclusion of the Advisory Expert Group (AEG) on National Accounts, expressed in its fourth meeting that took place in Frankfurt am Main on 30 January to 8 February 2006, can be considered as the basis for the current guidelines in the SNA 2008. According to SNA 2008, liabilities (and entitlements) related to employment-related pension schemes have to be recognised, regardless of whether or not they are funded. In recognising these liabilities, some flexibility is however allowed for pension schemes which are intertwined with more generic social security type of schemes. The latter may therefore not be recorded in the core tables, but in order to arrive at an internationally comparable set of data on pension liabilities, SNA 2008 requires that these schemes be included in the supplementary table (Table 17.10). It should be noted here that the European System of Accounts (ESA) 2010 does not offer the same degree of flexibility with respect to the core/non-core allocation of schemes and the concomitant recording of pension liabilities and entitlements. According to the ESA 2010, liabilities of all unfunded government schemes should not be recognised in the core system of national accounts, and only be recorded in the supplementary table.

More clarity on what is to be recorded in the core accounts

9. Discussions at the international level led to the amendments to the SNA 1993 on the treatment of pension schemes. Most important in this respect are the conclusions of the AEG on National Accounts. There was strong AEG support for the recommendation from *the International Task Force meeting on employers' retirement schemes* to recognise the liabilities for all employer pension schemes, including unfunded ones, and any associated assets and transactions. Nevertheless, due to the difficulties for some countries in drawing the line between pension schemes for government employees and those for social security schemes, the AEG stressed the importance to develop criteria that would distinguish between the various types of schemes. The possibility was raised of countries not including the liabilities for pensions

of government employees in the core accounts, but instead only including them together with the liabilities for social security schemes in the supplementary table, until criteria were developed to distinguish between the various types of schemes.

10. In discussions related to the implementation of the SNA 2008, the AEG on National Accounts, in its 2014 meeting (Washington DC, September 8 – 10), also took into consideration the work of the *European task force on the measurement of pension entitlements* while elaborating on the criteria that are currently mentioned in the SNA. The European task force considered five possible criteria to determine whether or not to record pension entitlements in the core national accounts: (a) the degree of integration within the general government structure; (b) the risk exposure and ability to change the benefit formula; (c) the nature of the contract; (d) the legal framework close to social security pension schemes; and (e) the funding of the scheme. Moreover, the strength of the pension entitlements was considered as an additional criterion, but was not included in the list because of difficulties in interpretation. The AEG did not reach a final conclusion on which criteria to apply to the recording of pension entitlements, but advised that further study be conducted before providing a final recommendation.

11. Unlike in national accounts, the treatment of pensions has been clearer for a longer period of time in the IMF Government Finance Statistics Manual (GFSM). Since the GFSM 2001, GFS compilers have been directed to recognize and record pension liabilities. In the case of employment-related, non-autonomous or unfunded pension schemes, GFSM 2001 records the relevant pension obligations on the balance sheet, as government liabilities, as part of insurance technical reserves (see GFSM 2001 para. 7.120). Furthermore, GFSM 2001, although aligned with the SNA in not regarding social security obligations as liabilities in the balance sheet, also required the recording of social security obligations, as a memorandum item (see GFSM 2001 para 7.145).

12. GFSM 2014 continues this approach, with the new manual continuing to require employment-related pension liabilities, referred to as pension entitlements, to be recorded on the government balance sheet for non-autonomous and unfunded schemes. GFSM also fully aligns with the guidance in SNA 2008 requiring the recognition of underfunding of government backed autonomous pension funds, with the recording of claims of pension funds on pension managers as liabilities of the government; see GFSM 2014, paragraphs 7.178–7.200. These liabilities are recorded within the broader category of Insurance, Pension and Standardized Guarantee Schemes. Appendix 2 of the GFSM 2014 provides more detailed guidance on the delineation between social security pensions and other employment-related pension schemes.

13. As the guidance provided in GFSM 2001, GFSM 2014 excludes social security obligations from the balance sheet, but also continues to recommend the recording of a memorandum item to capture the social security obligations of government. However, GFSM 2014 has changed the recording from a gross to a net position – recommending the recording of the net implicit obligations for social security benefits, as stated in paragraph 7.261: “As explained in paragraphs 7.194 and A2.39, no liability is recognized in macro-economic statistical systems for social security benefits — such as retirement benefits (other than employment-related pensions) and health care benefits — payable in the future. These implicit obligations to pay social security benefits in the future are not contractual obligations and are therefore not recorded on the balance sheet (see paragraph 7.252). The present value of social security benefits that have already been earned according to the existing laws and regulations but are payable in the future should be calculated in a manner similar to the liabilities of an employment-related pension scheme. This amount minus the present value of social security scheme contributions provides an indication of the net implicit obligations that a government unit has for social security benefits payable in the future”.

14. With the update of the SNA, the guidance in the SNA 2008 and the GFSM are aligned in requiring employment-related pension schemes to be recorded in the core accounts and social security

schemes to be recorded as supplementary items, although in the case of social security schemes SNA 2008 requires a gross recording of the obligations, whereas GFSM 2014 recommends a recording net of contributions. However, in the case of employment-related pension schemes that are intertwined with social security, it is still not clear whether entitlements should be recognised as liabilities in the core accounts. Both standards still lack clear criteria on how to distinguish between the two types of schemes and when entitlements should be recorded in the core accounts and when only as supplementary items.

15. Further to the AEG recommendation and as discussed in Zwijnenburg (2015), the OECD has looked into the issue of determining which pension entitlements should be recorded in the core accounts versus which should only be recorded in the supplementary table, and found that in the end the only relevant criterion can be the legal nature of the pension entitlement. In defining the accurate criteria to decide whether pension liabilities should be recognised and recorded in the core system or only in the supplementary table, the main focus should be on the question of whether or not the relevant entitlements can indeed be regarded as a financial asset/liability according to the basic definition of assets/liabilities in the SNA 2008 (and the GFSM 2014). If pension entitlements are regarded as an asset/liability according to this definition, they should be recorded in the core table. If they do not fulfil these criteria, they should only be recorded in the supplementary table.

16. Paragraph 3.33 of the SNA 2008 states that "a liability is established when one unit (…) is obliged, under specific circumstances, to provide a payment or series of payments to another unit". Likewise, the Glossary of the GFSM 2014 states the following: "A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide funds or other resources to another unit (the creditor)". The SNA 2008 elaborates that a liability is most commonly established via a legally binding contract that specifies the terms and conditions of the payment(s) to be made and that payment according to the contract is unconditional. From these definitions it can be concluded that the legal obligation to provide (unconditional) payment(s) to another unit should be the decisive criterion whether or not to record an entitlement in the core accounts. This is also considered to be the decisive argument why social security entitlements are not to be recorded in the core accounts. As social security is not provided on the basis of legally binding contracts and its basis can be unilaterally changed by governments, they only need to be recorded in the supplementary table. This approach is consistent with paragraph 7.261 of the GFSM, as they both recognise that the absence of contractual obligations for a pension scheme means that its liabilities are implicit in nature, and would therefore be addressed in the supplementary table for the national accounts and as a memorandum item for the GFSM.

17. Other criteria have been mentioned in the discussion on finding the accurate criteria, such as the coverage of the scheme, whether the benefits were income-linked or not, the autonomy of the pension fund, whether contributions were voluntary or mandatory, the funding of the scheme, the scheme being privately or publicly sponsored, defined benefit versus defined contribution, et cetera. However, although some of these criteria may frequently coincide with the legal obligation to provide future payments, they are not decisive in their own right. It is true that social security schemes are quite often based on pay-as-you-go systems and that employment-related schemes are often (partially) funded. However, the funding itself is not the reason why only the obligations of the latter would have to be recorded in the core accounts. It is also possible for a social security scheme to be funded and to have assets earmarked for the specific purpose of meeting future obligations, but in that case they should still only need to be recorded in the supplementary tables. Likewise, employment-related pension schemes can be either funded or unfunded. It is due to the fact that employment-related schemes are usually based on some form of a contract that they need to be recorded in the core accounts.

18. The same line of reasoning can be applied to the other arguments. It is often the case that autonomous funds are set up for legally binding pension schemes; contractual schemes are often income-linked; public sponsored schemes are often related to social security schemes whereas private ones often

refer to employment-related schemes. However, they are not decisive criteria for determining when to record entitlements in the core accounts and when only in the supplementary tables. The nature of the liability is the most relevant characteristic to consider. When looking at the intertwinement, these other characteristics are therefore deemed to be irrelevant. One should look at the legal basis of pension schemes in a country. When there is a contract or another form by which entitlements are enforceable and payments are unconditional, it has to be regarded as an explicit liability and to be recorded in the core accounts. When the scheme 'only' has a statutory basis or another basis that gives the government the opportunity to unilaterally adjust the benefits or the conditions, then it has to be regarded as an implicit liability and only be recorded in the supplementary table.

New table on household retirement resources

19. While Table 17.10 provides comprehensive information on all pension schemes of which entitlements may or may not be recognised and recorded in the core system of national accounts (to arrive at an internationally more comparable set of data on pension liabilities), it does not allow for a number of schemes which are designed to encourage household savings for retirement which are not part of social insurance. As a result, Table 17.10 does not present a complete picture of household savings for retirement and consequently of household financial wealth after retirement. A proposal to develop an additional table on household retirement resources was initially brought forward at a workshop organised by the OECD and the Australian Bureau of Statistics in Canberra, Australia on April 22-24, 2013. An example of this table can be found in Appendix A of this document.

20. This new table would not only include social insurance type of schemes, in line with Table 17.10 of the 2008 SNA, but would also include other resources that households have saved to prepare for retirement. As a result, the most significant difference between Table 17.10 and the new table is that the latter includes four additional columns to capture holdings not related to social insurance[2]. The first two columns would represent individual life insurance (the first for annuities and the second for other life insurance policies). The third column would capture private savings schemes taken out by households and which provide tax incentives for retirement savings. The fourth column would represent country-specific individual savings schemes and/or other forms of capital accumulation that are typically used to provide for (additional) resources for retirement, but that are not captured in the first three columns. Obviously, this table would also display the counterparty items to Table 17.10. While Table 17.10 shows the social security and employment-related pension liabilities of the general government and other employers in a country, the new table would include the relevant assets of the households.

21. One aspect of the new table is still open to discussion. Resident households may hold entitlements towards non-residents, whereas some domestic entitlements may be held by foreign households. While omitting cross-border holdings from the table may not be an issue for larger countries, there may be significant differences for smaller countries that experience a significant amount of cross-border transactions and positions relative to their size. In response to this issue, there are two options to cope with the potential divergence between assets and liabilities.

22. The first option is to take the pension liabilities of all domestic sectors (i.e. the counterparty to domestic assets held by both resident and non-resident households) and convert this into the pension assets of domestic households, including both the ones with a resident and those with a non-resident counterpart.

[2] As defined in SNA 2008, paragraph 17.88, a social insurance scheme is an insurance scheme where the benefits received are conditional on participation in the scheme and constitute social benefits, and where one of three conditions is met: participation in the scheme is obligatory by law or under the conditions of employment; the scheme is a collective one operated for the benefit of a designated group of workers; or, an employer makes a contribution to the scheme on behalf of an employee.

This would be achieved by taking the liabilities of all domestic sectors (row 11), and then adding the foreign resources held by resident households and subtracting the domestic liabilities that relate to foreign households.

23. The second option is to start with the (domestic and foreign) pension assets of resident households and convert this into the pension liabilities of all domestic sectors. This would be achieved by subtracting the foreign resources held by resident households from the (domestic and foreign) pension assets of resident households and by adding the domestic resources held by non-resident households.

24. It is recommended that the new table utilize the first option, as this would enable this table to extend seamlessly from Table 17.10, which ends with the pension entitlements (liabilities) of the domestic economy.

2.2. Developing internationally comparable estimates

25. Even if all of the pension liabilities of any two countries are recorded in the national accounts, either in the core system and/or the supplementary table, the resulting statistics may not be comparable between those countries. This is because the methods or assumptions used to calculate the statistics may be different, leading to estimates that represent very different aspects of each country's pension liability.

26. Pension schemes normally take the form of either a defined benefit scheme or a defined contribution scheme. In a defined contribution scheme, the benefits are determined by the contributions made by the beneficiary and the returns generated from the invested funds. Estimating the liabilities associated with a defined contribution scheme is relatively straightforward, as the liabilities are equal to the assets accumulated under the pension fund. In contrast, under a defined benefit scheme, the benefits are determined by a formula which can include factors such as age of retirement, average salary, and years of service. As a result, the estimation of liabilities in a defined benefit scheme is a more complicated process, as it requires data on the beneficiaries' years of service and salary levels as well as assumptions and projections of when they will retire, how long they will live and how their benefits will be indexed.

27. The following is a brief description of various factors that can cause the significant differences when estimating the pension liabilities of a defined benefit scheme.

Institutional arrangements for compiling data on pensions

28. Following a standard set of estimation and recording guidelines for pension entitlements is not a straightforward exercise. The statistical agency (or other responsible organization) in each country has its own process for obtaining the data on pension liabilities and interpreting/adjusting the data to fit the requirements of the SNA. This process might include any combination of the following:

- Extracting the data from the financial statements and/or actuarial reports of a pension scheme;
- Receiving the data from the pension sponsor;
- Receiving the data from the pension scheme's actuary;
- Receiving the data from a regulator's actuary;
- Generating or adjusting the data using an in-house team of specialists (i.e. working within the statistical agency, finance department or central bank);
- Hiring an external expert to develop estimates.

29. Another complicating factor is that estimates provided by actuaries may be based on standards, regulations or laws that govern the methodologies for completing the calculations. If this leads to assumptions for one pension scheme that are different from those of other schemes or other countries, then this significantly reduces the comparability of the data.

30. In many cases, the completion of supplementary table 17.10 and the new table on household retirement resources may require the statistical agency to ask another organization (e.g. actuary, external expert) to develop another set of estimates that comply with these tables' format requirements and standard assumptions. Such requests can incur additional costs (in time and/or financially), which can be difficult for organizations with limited resources, and which can be expensive and time-consuming for organizations with less in-house expertise. As a result, the best approach to take is a choice each statistical agency must make based on their institutional expertise, resources and business practices. In estimating the entitlements, the main factors governing the valuation relate to the discount rate, the salary rates, the time horizon and membership. Each of them will be briefly addressed below.

Discount Rate

31. Of any single assumption, the choice of discount rate has the most significant impact in the calculation of a pension entitlement. This is because the effects of the discount rate accumulate over the entire time horizon of the calculations.

32. For valuing defined benefit schemes, the International Public Sector Accounting Standards (IPSAS) recommend using market yields at the reporting date on government bonds, unless there is no deep market in government bonds or the market yields of government bonds do not reasonably reflect the time value of money, in which case the market yields of high quality corporate bonds or another relevant financial instrument should be used (IPSAS 25, paragraph 94). This guidance is based on the International Accounting Standards (IAS), which recommend using market yields at the end of the reporting period on high quality corporate bonds, unless there is no deep market for high quality corporate bonds, in which case the market yields of government bonds should be used (IAS 19, paragraph 78). These standards are often used to guide the work of actuaries in developing pension liability estimates for central banks and statistical agencies.

33. Consistent with the concepts presented in IPSAS 25, the Technical Compilation Guide for Pension Data in National Accounts (Eurostat, 2011) provides more detailed guidance using central government debt securities as a basis for selecting the discount rate. Using the IPSAS approach, government-managed pension schemes would end up with a discount rate based on the yield from the central government debt securities of a group of countries (e.g. European central government debt securities). The maturity of these securities should be similar to that of pension entitlements (i.e. long term, at least 10 years). To facilitate international comparability, the Guide also recommends that all EU countries use the same discount rate. Based on this direction, the most recent edition of the Guide (from 2011) recommends that EU countries use a discount rate of three per cent in real terms and five per cent in nominal terms[3].

34. However, as these particular rates may be relevant for some countries, they may not be applicable to economies experiencing high inflation. Therefore, a standard percentage would not work on a worldwide basis. Furthermore, this guidance does not apply to countries outside of the EU, or even within countries that are EU members, so there is still a possibility that discount rates can vary amongst countries. In order to ensure that statistical users are aware of which discount rate is being applied, it is recommended

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3 The Guide does not state how often the discount rate should be updated. However, the Guide recommends using a stable discount rate in order to avoid the noise resulting from frequent changes.

that countries include a note indicating the discount rate(s) used in estimating their pension liabilities. If they are not following specifications, such as outlined in Eurostat's Technical Compilation Guide, then statistical agencies should follow the concepts of IPSAS 25 to the greatest extent possible.

Salary Rates

35. Defined benefit pension schemes normally provide a benefit that is based on each member's salary (such as final salary, lifetime average salary, or average salary from a set period of years). On account of this feature, the valuation of pension liabilities can vary depending on whether the estimates are calculated as Accrued Benefit Obligations (ABO) or Projected Benefit Obligations (PBO). The key difference here is that ABO is based on each member's current salary, while PBO is based on a projection of the future salary on which each member's pension benefits would be based when they retire. For this reason, calculations using PBO will be considerably higher than those using ABO[4]. For defined contribution pension schemes, salary rates do not directly influence the calculation of the pension liability, because the benefits payable from the scheme are not linked to salary rates but instead based on the financial assets accumulated from contributions.

36. While the SNA 2008 does not make a recommendation on which method to use, it does provide guidance on how to record the pension liabilities under each method (SNA 2008 paragraphs 17.180 to 17.186). Both IAS and IPSAS recommend calculating post-employment benefit obligations for defined benefit schemes on a basis that reflects estimated future salary increases, implying the use of the PBO method (see IAS 19, paragraph 83a and IPSAS 25, paragraph 96a). Eurostat's Technical Compilation Guide also recommends using the PBO method, although it leaves the option available to use ABO if there is a good reason to do so. While PBO is the widely recommended approach, the ABO is a simpler method, as it does not require the projection of future wage growth or the application of wage growth to what may already be a complex model for estimating pension liabilities. As a consequence, there is still a risk that some countries may be applying the ABO method when estimating their pension liabilities. In either case, as a minimum, statistical agencies should make an explicit note of whether ABO or PBO was used in their calculations.

Time Horizon and Membership

37. Another key assumption in the estimation of a pension liability is the time horizon and generations of workers that are included in the calculations. Some models for calculating pension liabilities use the accrued-to-date method, which includes only the benefits that current members have earned to the present period in the calculation. Other models go further by using the closed group method, which means that both the accrued benefits and the projected benefits of current members are included in the calculation[5]. Further to this, another approach is the open group method, which means that the demographics of future generations of workers are projected, in order to then form a basis to estimate the benefits of future generations, which are then added to the accrued and projected benefits of current members.

38. While neither IAS/IPSAS nor the SNA 2008 / Eurostat Technical Compilation Guide makes an explicit recommendation on which method to use, they all provide guidance on the basis that the reported pension liability should only represent entitlements that have been accrued to date, and not the future

4 The Eurostat Technical Compilation Guide for Pension Data in National Accounts states that PBO could lead to results that are 10 to 20% higher than ABO.

5 Note that this is different from the discussion on salary rates. The difference between ABO and PBO is based on whether current salaries or projected salaries are used. The difference between accrued-to-date and closed group is based on whether accrued service or projected service is used.

entitlements of current members or the entitlements of future members. This is logical given the notion that financial statements and national accounts are designed to display the current state (rather than the future state) of an organization or economy. The closed group and open group methods are better suited to exercises specifically involving pension design and reform, where decision-makers would need to know the longer term effects of pension scheme adjustments.

39. It is expected that the majority of organizations involved in the reporting of pension liabilities are reporting their data based on the accrued-to-date method. However, if there are any cases where another method is used, it is highly recommended that they explicitly note this deviation.

3. Implications for the interpretation of the results

Interpretation of Government Debt: Implicit Liabilities

40. The presence of comprehensive and internationally comparable pension statistics is important, not only for comparing the adequacy and financial sustainability of pension systems around the world, but also for comparing the solvency and fiscal sustainability of governments and the risk levels of their debt. Most international comparisons of government debt limit the scope of their analysis to explicit liabilities (i.e. liabilities recognized by law or contract) and therefore do not include implicit liabilities (i.e. liabilities stemming from a "moral" obligation). There are a few possible reasons why implicit liabilities are often excluded from the analysis and international comparison of government debt. However, the first reason explained below is, in our opinion, not a valid rationale for omitting important data, and the other two reasons could be mitigated from the improved measurement of implicit liabilities.

41. First, many users of government debt do not view implicit liabilities as "real" debt, because the government has the ability to renegotiate or even unilaterally change the terms. However, it is for exactly this reason that implicit liabilities should be presented in addition to data on explicit government debt figures, so that policy makers and other users can obtain a better sense of a government's total financial health as well as the likelihood and extent to which the government would renegotiate the terms of its implicit liabilities.

42. Second, for the purposes of public sector debt statistics, a standardized set of rules with respect to the measurement of implicit liabilities has not been defined. While public pensions and other social security for retirement could be a straightforward item to measure for some users (given the accounting and actuarial guidelines that now exist for post-employment benefits), there is less clarity as to how to measure other implicit liabilities such as health care financing, education financing, or contingent liabilities such as disaster relief and guarantees related to, for example, banks in financial distress. The domain of government financial statistics would benefit from further research in defining the full range of possible implicit liabilities and the criteria for including each type in the analysis of government liquidity, solvency, and short-term and long-term financial sustainability.

43. Third, there is a lack of comprehensive and internationally comparable data on the implicit liabilities of countries, even for only implicit liabilities such as pension schemes which have established guidelines for their estimation. On this front, the widespread adoption of SNA 2008, in particular supplementary table 17.10, as well as the approval and implementation of the new table on household retirement resources, would contribute towards the availability of adequate data.

44. The analysis of government debt would benefit from a more complete picture of a government's obligations, whether contractual or moral. The inclusion of implicit liabilities would form a significant part of this picture. However, a standardized framework outlining which implicit liabilities to include in various debt measures is required before a complete and comparable analysis of government debt could be

conducted. Once this is established, the full implementation of table 17.10 and the proposed table on household retirement resources could provide a valuable source of data to inform this analysis.

45. One example of trying to arrive at an improved international comparison of explicit government debt in OECD countries can be found in the OECD Economic Outlook from May 2014 (OECD, 2014, Box 4.7). In this example, the total liabilities of the government in each OECD country are displayed in line with the recommendations of SNA 2008. However, these figures are not comparable because some countries include the unfunded liabilities associated with partially funded government employee pension plans. To address this issue, liabilities associated with unfunded pension liabilities are removed from the total liabilities, with the resulting figures shown in a separate column. The assets accumulated for employment-related and social security schemes are also incorporated into subsequent columns in the table. This additional information allows the reader to view government debt across OECD countries in a more comparable manner, as the total liabilities have been adjusted to account for the initial differences in how countries report their debt figures. However, it should be noted that this analysis cannot be considered entirely complete, as it does not incorporate other government assets that would enable the reader to view the net government debt of each country. It should also be noted that there were nine countries for which sufficient data was not available to enable the display of total liability figures which incorporated social security liabilities and assets, so a full comparison across all 34 countries is still not possible. Furthermore, in the end, one would prefer to compare countries based on a full recording of pension obligations, whether explicit or implicit liabilities, according to supplementary table 17.10, instead of negatively adjusting the current debt figures for pension obligations recorded in the system of national accounts and for assets accumulated in view of future payments of pension benefits.

Interpretation of Government Debt: Gross Debt versus Net Debt

46. Even when a review of government debt includes pension liabilities that are estimated using similar methodologies and assumptions, this review may not provide fully comparable data. This is because a comprehensive review of government debt should incorporate the assets of each government as well. In other words, a complete and comparable analysis of government debt should preferably be based on net debt rather than gross debt.

47. At the March 2014 meeting of the Task Force on Finance Statistics (TFFS), member agencies agreed to include the preparation of a paper on general government net debt as part of the TFFS work program. The IMF and the OECD are jointly developing this paper and found that when looking at the financial sustainability of government debt, gross government debt only provides part of the picture. It is also relevant to look at the asset side of their balance sheet, as this side provides insight into the capability of a government to pay off part of the debt in case of solvency problems or to use income generated from its assets to offset part of their future expenditures. Furthermore, information on government assets may provide insight into whether the government has used the money to invest in the acquisition of non-financial and financial assets, or to cover current government expenditures only. A government that has large liabilities, but also shows large financial and non-financial assets on its balance sheet, could actually be in a better financial position than a government with a lower amount of liabilities but with little to no financial and non-financial assets on its balance sheet.

48. The importance of also looking at the asset side of government's balance sheets has become especially apparent in the last couple of years when governments increased their debts with accompanying accumulation of financial assets as a consequence of the financial crisis. Due to the financial crisis, governments acquired financial assets from financial institutions to prevent the latter from going bankrupt. In this way, the governments increased their gross debt, but as they also acquired financial assets at the same time, their net debt increased by far less. However, it should be noted that the liabilities and assets

may not have increased by the same amount, as the bailouts often concerned, for example, financial defeasance structures involving impaired assets.

49. In the context of liabilities for social security and employment related pensions, the findings of the IMF-OECD paper highlight the importance of including pension liabilities (and accumulated assets) in the analysis of government debt. This would then provide a more complete picture of a government's balance sheet and the sustainability of its finances.

4. Conclusions

50. In order to facilitate further progress in the development and recording of statistics for long-term liabilities for social security and employment related pensions, the following recommendations are proposed, for which the following next steps need to be pursued.

51. Recommendations:

- Regarding the recording of pension entitlements in the core system of national accounts and in the government finance statistics, it is recommended that statistical agencies use the presence of a legal contract as the criterion to determine whether a pension scheme should be recorded in the core accounts or only in the supplementary table.

- Regarding the approval of the final design of the new table on household retirement resources, it is recommended that the table take the pension liabilities of all domestic sectors (i.e. the counterparty to domestic assets held by both resident and non-resident households) and convert this into the domestic and foreign household retirement resources held by resident households. This would be achieved by taking the liabilities of all domestic sectors (row 11), and then adding the foreign resources held by resident households and subtracting the domestic resources held by foreign households.

- Regarding the estimation and reporting of pension liabilities, it is recommended that statistical agencies include a note outlining the assumptions/methods used in developing their estimates. A useful format in which to provide this information is the pension scheme fact sheet that Eurostat has developed to accompany Table 29 in the ESA 2010 Transmission Programme (i.e. the European equivalent of Table 17.10 in SNA 2008). In regards to assumptions and methods, it is recommended that statistical agencies conduct their calculations to reflect Projected Benefit Obligations (PBO) and Accrued-to-Date Liabilities (ADL), and explicitly make note of any deviations from this approach. For discount rates, statistical agencies should preferably follow a rate based on the yields of central government debt securities, with maturities similar to the time horizons of the pension entitlements (as outlined in IPSAS 25). If this shows not to be feasible, then a fixed real discount rate similar to Eurostat's Technical Compilation Guide should be selected.

52. Next steps:

- In order to fill current data gaps on social security and employment related pension schemes, the OECD Statistics Directorate distributed a survey to all OECD countries on January 12, 2015 requesting information on the assets and liabilities related to government sponsored pension schemes, as recorded both within and outside of the general government sector, as well as of government sponsored schemes not recorded in the national accounts. As of February 13, 2015, 21 of 34 countries have responded to the questionnaire. The results of the questionnaire will not be used for official statistics in the national accounts but would only be used in an analytical context to inform OECD publications such as its Economic Outlook or Pensions at a Glance.

- In order to increase broader awareness of implicit pension liabilities, the OECD Directorate for Employment, Labour and Social Affairs (ELS) is considering publishing a Brief including a methodological background paper on implicit liabilities in the course of 2015. To inform this work, ELS is currently developing estimates of pension liabilities in each OECD country using an approach[6] similar to the Freiburg model.

- To facilitate a broader effort of achieving international comparability in pension statistics, the OECD Statistics Directorate and the IMF (to be confirmed) are planning to hold a pension workshop in the fall of 2015. The workshop will be similar to the workshop organised by the OECD and the Australian Bureau of Statistics in Australia in April 2013 and the workshop organised by Eurostat in Luxembourg in November 2014. The intention will be to discuss how to achieve international comparability in pension statistics and to exchange best practices in the estimation and recording of pensions more generally. Although a key item for discussion would be the extension of the platform to non-EU OECD countries, the participation of EU-countries, the ECB and Eurostat would be most appreciated, in order to arrive at a better alignment of the conceptual and measurement issues, and also to benefit from the experience gained at the EU-level. At the workshop, the extent of required metadata to support the appropriate use of the data for policy analysis and research could also be considered.

[6] This approach reflects Project Benefit Obligations (PBO). Calculations reflect both the accrued-to-date (ADL) and the closed group method, but may be streamlined further as work progresses.

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Appendix A

Table on Household Retirement Resources

Row number	Position / transaction / other flows	Annuities	Other (individual) life insurance policies	Specific schemes linked to tax incentives	Other (Please specify: ....)	Total household retirement resources not related to social insurance	Defined contribution schemes	Defined benefit schemes	Defined contribution schemes	In the financial corporation sector	In the general government sector	In the general government sector	Social security pension schemes	Social assistance schemes	Total resident and non-resident household retirement resources related to social insurance (with liabilities in the domestic economy) and related to social assistance	Total household retirement resources
		Liabilities appear in the core national accounts										Liabilities do not appear in the core national accounts				
		Not related to social insurance					Related to social insurance									
							Non-general government		General government							
										General government employee defined benefit schemes						
	Column number	A	B	C	D	E = A to D	F	G	H	I	J	K	L	M	N = E to M	O = D+N
	Opening balance sheet															
1	Total household retirement resources															
	Transactions															
2 = 2.1 to 2.5	Social contributions relating to pension schemes															
2.1	Employer actual social contributions															
2.2	Employer imputed social contributions															
2.3	Household actual social contributions															
2.4	Household social contribution supplements															
2.5	Less Service charges															
3	Other (actuarial) accumulation of pension entitlements in social security funds															
4	Pension benefits															
5 = 2+3-4	Adjustment for the change in pension entitlements															
6	Change in pension entitlements due to transfers of entitlements															
7	Change in entitlements due to negotiated changes in scheme structure															
8	Additions to less withdrawals from individual schemes not related to social insurance															
	Other economic flows															
9	Revaluations															
10	Other changes in volume															
	Closing balance sheet															
11	Total pension liabilities in domestic economy															
12	Total household retirement resources of resident households in the rest of the world															
13	Total household retirement resources of non-resident households in the domestic economy															
14 = 11+12-13	Total domestic and foreign household retirement resources held by resident households															
	Related indicators															
	Assets held by pension schemes at end-year															
	Valuation Method for entitlements															

Empty cells show where entries appear in the main ("core") accounts.
Black cells show where no entry is appropriate.
Grey cells show where information is provided in the supplementary table only.