Working Party on Financial Statistics

The OECD collection of annual estimates of pension entitlements in social insurance: First main findings

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This paper presents the first results of the data collection of annual estimates of pension liabilities and entitlements in social insurance pensions according to Table 2900. This table, for which data collection for non-European OECD countries started in 2018, provides a comprehensive overview of liabilities and entitlements of all social insurance pension schemes in an economy, both those that are recognised in the central framework of the national accounts and those that are not. In addition to presenting first results, the paper also discusses specific issues as encountered in the compilation of these results (e.g. the delineation between the various schemes, the calculation of actuarial estimates, and cross-domain consistency), making recommendations to further improve the estimates and to further enhance cross-country comparability.

WPFS delegates are asked to provide feedback on the first results, to share their plans to provide (updated) results, and to discuss the possible publication of these results in the public OECD database.

The paper will be presented under agenda item 3d.

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1. Introduction

1.1. Background

1. Interest in pension statistics is continuing to increase, related to concerns about the solvency of pension systems and policy issues regarding generational equity, especially in ageing societies. The system of national accounts provides a lot of information, but as the central framework only recognises liabilities for employment-related and individual pension schemes, but not for social security types of pension schemes, it only provides a partial picture. Furthermore, due to difficulties for some countries in drawing the line between employment-related and social security pension schemes, pension data are not always fully comparable across countries. For these reasons, the 2008 SNA introduced a supplementary table on social insurance pension schemes (2008 SNA, Table 17.10) to provide a more comprehensive overview of liabilities of all social insurance pension schemes in an economy: both those that are recognised in the central framework of the national accounts and those that are not.

2. As of December 2017, Eurostat has started to collect pension data from its member countries on the basis of a supplementary table (Table 2900), which is consistent with SNA Table 17.10. Their collection focused on the reference year 2015, and Eurostat published the results in December 2018. As of 2018, the OECD has started to collect pension data from non-European member states of the OECD, based on a similar table1 (referred to as Table 2900 in the present note), also focusing on reference year 2015. In addition to information on pension liabilities from the point of view of domestic pension schemes (as covered in SNA Table 17.10), this table also includes data on pension entitlements from the viewpoint of resident households.

1.2. Purpose of the database

3. The purpose of Table 2900 is to present a comprehensive overview of all social insurance pension schemes in a country, i.e. both those recorded in the central framework of the national accounts and those that are excluded from the core tables. This would cover the employment-related schemes as well as the social security pension schemes, thus providing a complete overview of social insurance pensions in a given country, and allowing for comparability of these results across countries.

4. As explained by the SNA, § 8.65 a social insurance scheme is an insurance scheme where the following two conditions are satisfied: (i) the benefits received are conditional on participation in the scheme and constitute social benefits as defined in the SNA; and (ii) at least one of the three conditions following is met:

- Participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees;

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1 A draft of this table was presented at the joint meeting of the OECD Working Parties on Financial Statistics (WPFS) and National Accounts (WPNA) in November 2017, after which a written consultation has taken place to obtain information about the feasibility of countries to provide the relevant information and also on the underlying assumptions needed to compile some of the estimates. The results of this consultation have been used in finalising the template for the table on social insurance pension schemes and in preparing guidelines for completing this table.
The scheme is a collective one operated for the benefit of a designated group of workers, whether employed or non-employed, participation being restricted to members of that group;

- An employer makes a contribution (actual or imputed) to the scheme on behalf of an employee, whether or not the employee also makes a contribution.

5. As emphasised in the OECD guidelines for Table 2900, pension benefits provided via social security are commonly known as first pillar pensions. They are not recorded as assets of households or liabilities of government in the central framework of national accounts, but are only recorded in Table 2900. Employment-related (or occupational) schemes, are schemes which are derived from an employer-employee relationship, in which the entitles to social insurance benefits are secured as part of the conditions of employment (see § 8.7 of the 2008 SNA). Employment-related schemes (which can relate either to private or public employment) are often referred to as second pillar pensions. The third pillar refers to individual voluntary pension schemes. These are individual contracts between the contractor and the pension provider and are set up by the contractor whether he/she is an employee, self-employed or unemployed. As these schemes are voluntary pension schemes, they are not part of social insurance and should not be included in Table 2900. Furthermore, the scope of social insurance implies that social assistance (where there is no contribution to the scheme) is also not covered in the table.

6. Based on the explanation above, Figure 1.1 provides a schematic overview of what types of schemes are included in the OECD Table on social insurance pension schemes. Whether this seems straightforward from a conceptual point of view, it should be highlighted that this is not always the case from a practical point of view. Given the complex historical evolution of pension schemes and the variety of pension arrangements in different countries, it is not always easy to draw the line between these various types of schemes. This issue is discussed in more detail in Section 4.

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2 In this respect, it should be borne in mind that the distinction between ‘public’ and ‘private’ schemes (nor between ‘pay-as-you-go’ and ‘funded’ schemes) is not a decisive criterion in distinguishing between social security and employment-related pension schemes (see for more information Zwijnenburg (2016)).
7. The table presents “accrued-to-date” entitlements, reflecting the pension entitlements of the retired population as well as the pension entitlements that have been accrued up until the end of the reference period by future beneficiaries. The accrued-to-date method is also known as the closed group without future accruals method, and includes only the benefits that current members (hence closed groups) have earned up to the present period in the calculation. This method provides an estimate of the cost of a hypothetical termination of a pension scheme without reneging on accrued entitlements. Furthermore, it can be interpreted as representing an asset from the households’ perspective in national accounts’ terminology, which provides valuable information for the analysis of household wealth, as well as of households’ consumption and saving decisions.

8. Entitlements of resident households do not exactly match the liabilities of domestic pension schemes due to flows and positions vis-à-vis the rest of the world. This is the reason why, in addition to columns reflecting the flows and positions of social insurance pension liabilities of the various types of pension schemes in the domestic economy, the social insurance pensions table also includes columns to reflect the counterparts of these liabilities, and an additional column for pension entitlements of resident households accrued abroad to derive total pension entitlements of resident households.

9. It is important to note that this table should not be considered as an indicator of the sustainability of the various types of pension schemes. In this regard, it is important to realise that it only provides insight in the pension obligations that have been accrued up to the current period. This approach does not include future accruals, or the future generations that, in a pay-as-you-go scheme, will pay the contributions to fund the benefits to be paid in the future. In that perspective, the open group method would be a more suitable approach to assess the long-term sustainability of pension schemes.
1.3. Outline of paper

10. This paper presents the first results of the collection of annual estimates of liabilities and entitlements in social insurance pensions according to Table 2900, mainly focusing on results for non-European OECD countries. The paper is structured as follows. Section 2 describes what is covered in the columns and rows in Table 2900, and explains the main differences between the OECD and the Eurostat pension table. Section 3 discusses the results that were received up until October 11, 2019. Section 4 focuses on specific issues encountered in the analysis, while Section 5 concludes the paper by presenting a proposal for the publication of the OECD social insurance pension table (and related metadata sheets) early 2020.

2. Layout of table

2.1. Explanation of rows and columns

11. The OECD table on social insurance pension schemes shows all positions and flows of pension obligations for all different types of social insurance pension schemes in an economy. It also includes information on the corresponding entitlements. In line with the 2008 SNA, the pension liabilities show the amount of entitlements accrued by the current workforce and current pensioners by the end of the reporting period. This corresponds to the closed group approach (i.e. future entrants are not considered) without future accrual (i.e. future contributions are not considered).

12. The table distinguishes pension schemes (the columns of the table) by five criteria:

- by type of recording: positions and flows of pension schemes of which the pension liabilities are recorded in the central framework of the national accounts (columns A, B, C, D, E and F), and positions and flows of pension schemes of which the pension liabilities are only recorded in the table on social insurance pension schemes (columns G and H);
- by type of pension manager: schemes managed by non-general government (columns A, B and C) and schemes managed by general government (columns D, E, F, G and H);
- by type of benefit formula: defined contribution schemes (columns A and D) and defined benefit schemes (columns B and E, F, G and H);
- by type of administrator (for government sponsored defined benefit schemes): schemes administered by autonomous pension funds (column E) and funds administered by general government (column F);
- by type of pension scheme (for government sponsored defined benefit schemes): employment-related schemes (columns E, F and G) and social security pension schemes (column H).

13. An important distinction in Table 2900, as mentioned above, is the one between defined contribution schemes and defined benefit schemes. A defined contribution (DC) scheme is one where the benefits payable to an employee on retirement are defined exclusively in terms of the level of funds built up from the contributions made over the employee’s working life and the increases in value that result from the investment of these
funds by the manager of the scheme. The entire risk of the scheme to provide an adequate income in retirement is thus borne by the employee (see §17.128 of the 2008 SNA). As defined in the §17.129 of the 2008 SNA, a defined benefit (DB) scheme is one where the benefits payable to an employee on retirement are determined by the use of a formula. Unlike defined contribution schemes, the risk of a DB scheme to provide an adequate income in retirement is borne either by the employer or is shared between the employer and the employee.

14. Also worth noting is the difference between the role of the pension manager and the administrator. The pension manager is the entity responsible for managing the scheme, i.e. determining the terms of the scheme and bearing the ultimate responsibility for the entitlements, i.e. bearing the responsibility for any shortfall in the funds to meet the entitlements and having the right to any excess funds. The pension administrator is the entity that is responsible for the day-to-day administration of the pension scheme. In the central framework of the national accounts, pension liabilities are recorded according to the sector classification of the pension administrator. In some cases, the same unit may carry out both functions of pension manager and pension administrator, but in some cases this may be performed by two different units. In the latter case, the administrator is classified as a financial corporation. Although this distinction may be relevant for all schemes, in the table this distinction is only made for defined benefit pension schemes managed by the general government. Within this group schemes administered by an autonomous pension fund which are classified in the financial corporations sector (column E) are to be distinguished from those administered by, and classified in, the government sector (column F).

15. The table also contains columns to reflect the counterparts of the pension liabilities, i.e. resident and non-resident households:

- Resident households have their social insurance pension entitlements towards resident pension schemes recorded in column J, and towards non-resident pension schemes in column L;
- In the case where non-resident households have pension entitlements towards domestic pension schemes, this is recorded in column K.

16. The rows in the table contain a full reconciliation between the opening stock of pension liabilities and entitlements at the beginning of a period, and the closing stock at the end of a period. The main rows can be described as follows:

- Opening stock of entitlements (LS_F63, row 1);
- Net social contributions relating to pension schemes received by pension schemes (D61, row 2) compiled as sum of the contributions (D6111 to D6141, rows 2.1 to 2.4) minus the service charges (D61SC, row 2.5);
- Other actuarial changes (only relating to social security) (D619, row 3). This item reflects the difference between the increase in social security pension entitlements accruing in the current year (plus the cost of operating the scheme) and the actual social security pension contributions in that year;\(^3\)
- Pension benefits paid (D62, row 4);

\(^3\) This is to ensure a full reconciliation of the new social security pension entitlements and is similar to employer imputed social contributions related to the accrual of new employment-related pension entitlements (see row 2.2).
• Adjustment for the change in pension entitlements (D8, row 5), compiled as sum of net social contributions (row 2) and other actuarial changes (row 3) minus pension benefits (row 4);
• Changes in entitlements due to transfers of entitlements between pension schemes (D81, row 6) or negotiated changes in scheme structure (D82, row 7);
• Changes in pension entitlements due to revaluations (K7, row 8);
• Changes in pension entitlements due to other changes in volume (K5, row 9). This for example relates to alterations in demographic assumptions;
• Closing stock of entitlements (LE_F63, row 10);
• Assets held by pension schemes at the end of the year (LE_F_NG, row 11).

17. A more detailed description of each row and column can be found in Annex A.

2.2. Differences between the OECD pension table and Eurostat table

18. Some differences can be noted between the OECD collection on social insurance pension schemes and the one by Eurostat. The first one relates to the discount rate. Whereas the Eurostat collection asks compilers to use a baseline 3% discount rate (i.e. 3% real rate, 5% nominal rate), the OECD collection does not advice the use of a fixed discount rate, as economic differences across non-European OECD countries may be more pronounced. Instead, the OECD asks countries to determine the discount rates on the basis of the market yields on long-term government bonds, high quality corporate bonds and/or another financial instrument. Neither does the OECD collection include a sensitivity analysis with -1% and +1% for the discount rate.

19. Another difference relates to the fact that the OECD collection also includes information on pension entitlements of resident households with regard to non-resident pension schemes, which is not included in the Eurostat data collection. This additional column allows for the derivation of total social insurance pension entitlements of resident households. Furthermore, unlike the Eurostat table, the OECD collection also includes a row on assets held by pension schemes at end-year. This allows for assessing the coverage ratio of each scheme, i.e. to what extent the assets cover the pension liabilities.

20. Also worth noting is the difference between the two tables with regard to the coverage of column G: Defined benefit schemes for general government employees/administered by general government/not included in the core SNA accounts. Whereas the ESA 2010 defines this pension fund type as covering all unfunded schemes for government employees, the 2008 SNA only refers to the inclusion of so-called intertwined schemes, i.e. employment-related pension schemes that are intertwined with social security schemes. As a consequence of this difference in interpretation, EU countries may include some employment-related schemes in this column, while this is less likely for non-EU countries. This distinction is discussed in more detail in Section 4.1.1.

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4 This means that it is not possible to clearly distinguish whether it concerns a social security or an employment-related scheme.
3. Discussions of results

3.1. Overview of the non-European data received by the OECD

3.1.1. Description by column

21. The questionnaire on social insurance pension schemes (Table 2900) was sent to all non-European OECD members, OECD (pre-)accession countries, and BRIICS countries. For the purpose of this paper, all information as received by the 11th of October has been taken into account. Furthermore, information is available for most European countries, for which data have been collected by Eurostat. Data for European countries have been transmitted to the OECD at the end of 2018, except for Greece and Luxembourg, which remain confidential.

22. Nine non-European OECD countries were able to complete the table on social insurance pension schemes: Australia, Canada, Chile, Israel, Japan, Mexico, USA, as well as two accession countries: Colombia and Costa Rica. Furthermore, New Zealand explained that the table is not relevant for them, as there are no social insurance pension schemes in New Zealand.

23. Table 3.1 provides an overview of the data and metadata as provided by the relevant countries. It should be mentioned here that, for most countries, the estimates are still under development and may be revised in the near future.

<table>
<thead>
<tr>
<th>Central framework</th>
<th>Non-general government</th>
<th>General government</th>
<th>Total</th>
<th>Counterparts</th>
<th>More information</th>
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<tr>
<td></td>
<td>A  B  C</td>
<td>D  E  F</td>
<td>G  H</td>
<td>I  J  K  L  M</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>O M  O M  X M</td>
<td>O M  O M  X M</td>
<td>X M</td>
<td>X M  X M  X M X M</td>
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<tr>
<td>Canada</td>
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<td>X M  X M  X M</td>
<td>X M</td>
<td>X X  M X</td>
<td>2015 10</td>
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<td>X M</td>
<td>X M</td>
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<td>2003-2017 4</td>
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<tr>
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<td>X M  X M  X M</td>
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<td>O O</td>
<td>O O</td>
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<td>X M</td>
<td>O X M</td>
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<td>X M</td>
<td></td>
<td>X M</td>
<td>2015 4</td>
</tr>
</tbody>
</table>

Note: X: available column (year 2015), M: available metadata by columns, C: available column but confidential, O: not available, irrelevant for the country

24. All above mentioned countries have completed the table with data for 2015. Three countries have provided data for several years: Chile (2003-2017), Japan (2013-2017) and the United States (1996-2018). Mexico plans to provide data in December for the years 2003 to 2018.

25. When looking at the coverage of the responses, countries do not appear to be able to provide data for all columns. In particular, the part relating to “Counterparts: Social...
insurance pension entitlements of resident and non-resident households” (columns J to M) is lacking for quite a number of countries. In fact, only Australia, Canada and Mexico provided data for the counterpart information “Resident households towards domestic pension schemes” (column J).

26. The coverage is very good for pension schemes that are managed by non-general government entities (i.e. columns A to C), whenever relevant. Furthermore, almost all countries (with the exception of Japan) provided some data for pension schemes managed by general government (columns D to H). Columns E (Defined benefit schemes for general government employees/Central framework/Classified in financial corporations) was completed by three countries (Canada, United States, Colombia), while column F (Defined benefit schemes for general government employees/Central framework/Classified in general government) was completed by Australia (only reporting the pension entitlements at the beginning and end of the period), Canada and Colombia. For Chile, Israel, Mexico and Costa Rica, columns E and F were not relevant.

27. Data for column G was only reported by Israel. For most other countries it was reported as not relevant, except for Japan and Colombia. However, the latter countries were not able to provide data.

3.1.2. Description by row

28. Table 3.2 below provides an inventory of data provided by row. The ratio presented in the table reflects the number of reported cells in that row versus the number of applicable cells in that row for the country. For instance, Israel submitted data for “net social contributions relating to pension schemes” (D61, Row 2) for four columns, whereas it is applicable for five. This is presented as 4/5.

29. The table shows that information for some rows is only available to a limited extent. This is particularly the case for “Other (actuarial) change of pension entitlements in social security pension schemes” (D619, row 3) which was completed only by the United States and Costa Rica; “Transfers of pension entitlements between schemes” (D81, row 6) which was partially completed by Mexico (with “0”) and Colombia; “Change in entitlements due to negotiated changes in scheme structure” (D82, row 7) which was completed by Canada and Mexico (with “0”); and “Changes in entitlements due to other changes in volume” (K5, row 9) which was only completed by Japan, the United States and Mexico, and partially by Israel.

30. On the other hand, the opening and closing stock of pension obligations (LS_F63 and LEF_63) is broadly available. Only Colombia did not provide opening and closing stocks for any of the social insurance pension schemes whereas there is data for other transactions. Indeed, columns B, E, F and H are very partially reported.

31. Overall, the countries have good coverage for “Changes in pension entitlements due to social contributions and benefits” (D8), “Reduction of pension entitlements due to payment of pension benefits” (D62) and “Increase in pension entitlements due to social

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5 Counterpart information provided by Australia are sourced from “net equity of households in pension funds” (which is 1993 SNA terminology, equal to what is known in the 2008 SNA as “pension entitlements”) as obtained from the International Investment Section.

6 Japan explained that column D is not relevant for them; furthermore, source data is lacking for columns G and H.

7 Due to missing data or data only provided to the OECD Secretariat as confidential.
contributions” (D61), including its breakdown (i.e. D6121, D6131, D6141, D6141, D61SC).

Table 3.2. Data inventory by row

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<th>Country</th>
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<th>D61</th>
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<th>D61SC</th>
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<th>D62</th>
<th>D61</th>
<th>D62</th>
<th>K7</th>
<th>K5</th>
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<td>0/4</td>
<td>0/4</td>
<td></td>
</tr>
</tbody>
</table>

Note: The results presented in this table correspond to the ratio of x/y; x: the number of reported cells in the row for year 2015; y: the number of applicable cells in that row for year 2015, if the column is not completely empty.

3.2. Availability of metadata

32. Table 2900 has been collected for the first time. So it was particularly useful to collect additional metadata. This has been done in the same format as Eurostat. The metadata helps to get a better understanding of what is covered under the various columns in the table and what type of assumptions have been used to arrive at the results. This information also improves the cross-country comparability of the results and helps to correctly interpret the data. All countries that did complete the questionnaire also provided metadata.

33. The metadata file includes separate sheets for each column in the table. For all relevant and completed columns, countries are requested to provide a brief description of the schemes covered in a specific column (question a) and the data sources (question b). These two questions were well reported.

34. The metadata sheets related to defined benefit schemes and social security schemes contain additional questions to obtain more information with regard to the calculation of the results. These questions focus on the discount rate (asking to specify the percentage(s) used and how these have been derived), wage growth assumptions (when results have been based on the PBO approach), and demographic assumptions (asking for any relevant information with regard to life expectancy, future fertility rates and migration assumptions).

35. For the columns relating to the breakdown of social insurance pension liabilities into counterpart sector (i.e. columns J and K) the questions mainly focus on the type of information that is available to make this split. This is also the case for the column related to social insurance pension entitlements of resident households with regard to the rest-of-the-world (i.e. column L), also including some additional questions on type of schemes covered under this column and if possible on some of the assumptions underlying the
results. For more information, reference is made to OECD (2018), Guidelines for the OECD table on Social Insurance Pension Schemes.

36. The metadata revealed that pension schemes and data sources can differ substantially across countries and across columns (e.g. Chile reported one source for column A, whereas Canada reported nine). To have more insight in the relative importance of schemes within a column, some countries also provided additional information (e.g. Canada and USA) which is very useful to have a better understanding of the setup of the pension systems in the relevant countries.

37. Although there was good response regarding the metadata, one general omission concerned the lack of information on the reasons for missing data. This means that it is not always clear if data exist but is not collected, or if a specific column is not applicable for a country. This hampers the interpretation of the data. Furthermore, some of these metadata sheets still need to be complemented with further information for a more accurate understanding of the results. The Secretariat is following up with countries to obtain more detailed information.

38. A number of key assumptions (discount rate, wage growth and demography) are needed for the estimation of the entitlements related to defined benefit schemes (columns B and E to H). In order to be able to interpret and compare pension results across countries, detailed metadata is requested on these different assumptions. In this regard, Israel provided information on the institution which provided the discount rates for columns B, G and H and which calculated the wage growth as well as demographic assumptions. Mexico provided the discount rates for columns B and H and the wage growth assumptions (column B: PBO method; column H: ABO method). Also the United States provided quite detailed information on the discounts rates (i.e. details for three different schemes according to years and columns), the wage growth assumptions (which differs across columns) and the demographic assumptions (particularly relevant for column H). The information regarding the discount rates is discussed in more detail later on.

3.3. Results of the data collection

39. This section does not only focus on the results of the OECD data collection on social insurance pension schemes, but also includes results from Eurostat’s data collection. The analysis builds on previous work of the ECB8 and Eurostat on Table 2900, with attention paid to the various splits between types of pension schemes, comparisons across OECD countries, and where possible, changes over time.

40. It should be flagged that even if some numbers are made available by non-European countries, these are most often still experimental and it is made clear in the metadata sheets that some refinements to the estimates may be incorporated in due course.

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Unclassified
Looking at the data as received up until 11 October 2019, most of the reporting countries have the majority of their pension entitlements outside the central framework of the national accounts. For more than half of the countries, over 90% of their pension entitlements is not included in the central framework. This can mostly be explained by the significance of social security pension schemes, as seen in more detail in Figure 3.2. Only Australia and Chile have their pension entitlements entirely covered in the central framework.

Figure 3.2 shows where pension entitlements are highest as a share of GDP and also provides insight into the composition of these entitlements. The United Kingdom sits at the top, with pension entitlements being about 400% of GDP, followed by Austria (376%), France (369%) and the Netherlands (359%). For European countries, social security represents the bulk of the total pension system. This is also the case for the United States where social security represents two thirds of the total pension entitlements. Most of the non-EU OECD countries are found at the lower end of the chart, where pension entitlements make up a considerable lower share of GDP. However, it must be borne in mind that this may be due to missing information for some of these countries, e.g. due to lack of source data for social security pension schemes (Japan, Colombia) or as data have only been provided on a confidential basis (Costa Rica).
Figure 3.2. Breakdown of pension entitlements by type of pension scheme, end-of-2015, % of GDP

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>All private social insurance pension schemes (C=A+B)</td>
<td></td>
</tr>
<tr>
<td>DB schemes for general government employees - administered by general government - not included in the core SNA accounts (G)</td>
<td></td>
</tr>
<tr>
<td>DB schemes for general government employees - administered by general government - included in the core SNA accounts (F)</td>
<td></td>
</tr>
<tr>
<td>DC schemes for general government employees administered by autonomous pension funds (E)</td>
<td></td>
</tr>
<tr>
<td>Social security schemes (not included in the core SNA accounts) (H)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. Japan is missing source data for social security schemes.  
2. Colombia does not provide closing stocks for all pension schemes.  
3. Information on Costa Rican social security closing stocks are not publicly available.

43. Also worth noting are the high shares of social insurance pension schemes managed by non-government entities in a few countries, with the Netherlands leading (138% of GDP), followed by the United Kingdom (124%), Switzerland (117%) and Iceland (95%).

44. Figure 3.3 focuses on the split between defined contribution schemes (A) and defined benefit and hybrid schemes (B) for private pension schemes. This breakdown is crucial information, as this split allows to identify who is bearing the risk (the beneficiary or the manager) in case of any shortfalls. With a defined contribution scheme, the level of benefits payable to beneficiaries is determined by the accumulated funds from past contributions and investment returns, so the pension administrator and pension manager do not face any risk of insufficient funding. The beneficiaries bear the risk of receiving lower benefits if the pension fund experiences lower investment returns. With defined benefits and hybrid schemes, the financial risk that contributions and investment returns are insufficient to pay for the predetermined level of benefit, is borne by the pension administrator or manager (and partly the beneficiary).9 Whereas this distinction is quite straightforward from a theoretical point of view, it may not always be that straightforward to draw this distinction from a practical point of view.

9 See also “Understanding Financial accounts”, OECD, 2017, pp.315.
Figure 3.3. Private pension entitlements broken down by defined contribution and defined benefits and hybrid schemes, end-of-year 2015

Note: For Australia and Chile, no split is available. For Costa Rica, the split is confidential.

Six non-European countries (Canada, Israel, Japan, Mexico, the United States and Colombia\(^\text{10}\)) were able to split (at least partially) private employment-related schemes between defined contribution schemes (columns A) and defined benefit/hybrid schemes (column B).\(^\text{11}\) As compared to Figure 3.4, which shows the same distinction for government schemes, the split is more evenly divided between the two types, indicating a greater preference in the private sector to set up schemes according to defined contributions’ plans.

\(^{10}\) For Colombia, the end of year entitlements (AF.63) in column B are negligible.

\(^{11}\) In addition to pure DB and DC schemes, hybrid schemes exist that combine the characteristics of DC and DB schemes. In these schemes, the risk of providing an adequate retirement income is shared between the pension manager and the beneficiary of the scheme. The most important forms of such hybrid schemes are notional defined contribution (NDC) schemes, which are similar to DC schemes but, usually, include a guaranteed minimum amount payable. In NDC schemes, contributions from both employees and employers are credited to and accumulated on individual accounts. These individual accounts are notional in the sense that the contributions to the schemes are used to pay pension benefits of current pensioners. In the table, hybrid schemes are not distinguished separately, but combined with defined benefit schemes. It should also be noted that for “pure” defined benefit schemes, in the case of shortfalls renegotiations of the terms and conditions may have an impact on previously agreed benefits.
Figure 3.4. General government pension entitlements broken down by defined benefit and defined contribution schemes, end-of-2015

Figure 3.4 shows the split between defined benefit schemes (E, F, G and H) and defined contribution schemes (D) for pension schemes managed by the general government. As clearly indicated by the chart, defined contribution schemes are virtually non-existent among the general government pension schemes. Even in countries where they do exist, they are dwarfed by the defined benefit schemes, the biggest of which is usually the social security schemes as seen in Figure 3.2 above.

Figure 3.5. Asset-to-pension entitlement ratio for non-EU OECD countries, end-of-2015

Note: Chile, Colombia, Costa Rica and Japan are missing due to either insufficient data sources or the information has not been made publicly available.
47. The OECD collection on pension entitlements includes data on assets held by schemes at year-end, which allows for ascertaining whether the assets of various pension schemes cover the pension liabilities, as shown in Figure 3.5. In general, the data coverage for the government managed schemes is quite low, while it is almost complete for the private schemes.

48. By definition, assets are equal to entitlements in direct contribution schemes, which is what is observed in the data. For that reason, Figure 3.5 focuses on the defined benefit schemes. For the private defined benefit schemes (Column B), the coverage rate averages to about 83%, with only Japan having assets in excess of pension entitlements. Of the two countries which reported assets in social security pension schemes, the United States has assets held by social security only covering 8.1% of the scheme’s accrued-to-date liabilities, whereas this is 22% for Israel.\(^\text{12}\)

**Figure 3.6. Net increase in pension entitlements for all schemes across OECD countries, % of GDP, 2015**

49. Figure 3.6 shows all the flows affecting the stock of pension entitlements for OECD countries in 2015. On average there was a net increase in pension entitlements, with social insurance pension contributions (D61) accounting for the most substantial part of the increase. Poland had the highest net increase in pension entitlements (21%), followed by Iceland (20%) and the Netherlands (17%). Lithuania had by far the largest decrease of pension entitlements (-50%), which was mostly due to the impact of recent reforms.

\(^{12}\) Please note that the Canadian social security schemes are not based on an entitlement basis, but are unfunded plans which are considered to have a fully funded status at any given time. As this is not in line with the guidelines, these have not been included in the chart.
To give an example of which items are responsible for most of the changes in the opening and closing balances of pension entitlements, the case of the United States for 2015 for all pension schemes can be seen in Figure 3.7. The net increase in total entitlements over the year is 11% of GDP (from 293% to 304% of GDP), where the increase is mostly driven by social contributions (D61), with increases due to changes in social security pension schemes (D619) also having a big impact. Unsurprisingly, the biggest item decreasing pension entitlements is the payment of pension benefits (D62), which decreases them by 11%. Changes in entitlements due to revaluations (K7) and other changes in volume (K5) led to a minor decrease of 0.6% and 0.2% respectively.
To get a better sense of the changes in pension entitlements due to (imputed) contributions and benefits (D8) for all pension schemes across OECD countries, see Figure 3.8 above. These changes are governed by (i) the actual receipts of pension contributions, the imputed contributions (i.e., in the case of define contribution schemes, the reinvestment of returns on accumulated assets, and, in the case of defined benefit schemes, the unwinding of the discount rate (see also below), after deduction of costs of managing the scheme; (ii) with a negative sign, the payments of pension benefits; and (iii) other (actuarial) changes. In particular, the Netherlands showed a marked increase in pension entitlements, mostly due to other changes in pension entitlements in social security pension schemes (D619).
Figure 3.9. Social contributions across OECD countries, all pension schemes, % of GDP, 2015

Note: Canada is not included due to missing subcomponents of D61 for social security pension schemes.

52. Figure 3.9 above displays the increase in pension entitlements (D61) due to the payments of pension contributions by households for all pension schemes, as a percentage of GDP, for the year 2015. In most cases, the majority of the increase can be attributed to households’ pension contribution supplements, even outsizing the actually paid contributions. In the case of defined benefit schemes, these supplements reflect the unwinding of the discount rate, which refers to the fact that the present value of the entitlements existing at the beginning of the year and still due at the end of the year have increased because the future is one year nearer and so one fewer discount factor has been applied to calculate the present value (see §17.147 of the 2008 SNA). In contrast, for defined contribution schemes these contribution supplements equal the investment income on the cumulated assets (see §17.134 of the 2008 SNA).
The pension data collected for the United States stands out in having a long time series, which allows for analysing the developments in the US pension entitlements over time. Figure 3.10 above shows the change in the stock of pension entitlements across all schemes, broken down into its subcomponents, from 2001 to 2018. The yearly average increase in the stock of pension entitlements was 15% of GDP over the period, with social insurance pension contributions (D61) accounting for most of the increase (14% of GDP). Other (actuarial) changes of pension entitlements in social security pension schemes (D619) is also a major contributor to the increase in pension entitlements over the period, increasing it on average by 10% of GDP. Pension benefits paid (D62) decrease the stock of pension entitlements on average by 10% of GDP over the period. In total, the stock of pension entitlements increased by $40.2 trillion from 2001 to 2018.
Figure 3.11. Relative shares of private DC and DB pension schemes of total private pension schemes for the United States, closing stocks for 1996/2018

The increased relative importance of defined contribution schemes over time can also be seen from the long time series provided by the United States. This increase seems to be a response to the ageing society, reflecting a shift from DB schemes where the risk of insufficient funding is borne by the pension fund to DC schemes where the risk is borne by the pension beneficiaries. Figure 3.11 above, which compares the relative weights of DB and DC schemes among private pension schemes in the United States, clearly shows this trend. DB and DC schemes were roughly equal in 1996, but in 2018, DC schemes account for almost two thirds of all private pension schemes. It is interesting to note that a similar trend cannot be observed for US government managed pension schemes, with DC pension schemes (column D) staying at approximately 2% of all government managed pension schemes in 1996 and 2018.

4. Specific issues encountered in the analysis

This section discusses specific issues detected in the first transmission of Table 2900 to the OECD Secretariat by non-European countries, particularly focusing on delineation issues (within and beyond Table 2900), the difficulty of obtaining actuarial information for defined benefit schemes, and issues related to non-financial/financial cross table consistency. It also includes some recommendations to overcome some of these issues.

4.1. Consistency and completeness of Table 2900

4.1.1. Delineation between social security and employment-related schemes: The intertwined schemes in Column G

Table 2900 should only cover social insurance pension schemes. This implies that social assistance (where there is no contribution to the scheme) and individual insurance (which depends on an individual decision to participate in the scheme) are not covered in the table. However, given the complex historical evolution of pension schemes and the variety of pension arrangements in different countries, it is not always straightforward to draw the line between these types of schemes. Furthermore, within social insurance it is not always easy to make a clear distinction between social security and employment-related pension schemes.

As the distinction between employment-related and social security schemes is not always straightforward in practice, the 2008 SNA allows some flexibility for ‘intertwined’ pension schemes, i.e. employment-related schemes that have characteristics of social security schemes. Paragraph 17.193 of the 2008 SNA explains that these ‘intertwined’ schemes need not necessarily be recorded in the central framework, but in any case should be included in the supplementary pension table. For these latter schemes, a specific column (i.e. Column G) is included in the table to distinguish them from pure employment-related schemes and from social security pension schemes. Indeed, some government pension schemes may have characteristics of both social security and employment-related schemes which makes it difficult to classify them as either one of them. However, in line with the 2008 SNA guidance, it is not expected to occur very frequently.

The ESA 2010 applies a slightly different guidance for column G, which differs from the 2008 SNA guidance; according to the ESA 2010, the liabilities of all unfunded defined benefit employment-related schemes sponsored by government should only be recorded in the supplementary table (in column G) (see ESA 2010, §17.48)). Because of this wider coverage, it is to be expected that column G will be used more frequently by European countries than by non-European countries.

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14 A lot of these issues may also affect EU countries. Particularly the delineation issues have been discussed extensively in the context of the Eurostat Pension Expert Group.
15 The reasons for this non-recognition are explained in § 17.192 of the 2008 SNA, the main argument being that governments have the possibility to change the basis on which social security entitlements are determined.
16 See for more information on this issue Zwijnenburg (2016), pp.3.
Figure 4.1. Non-central-framework pension schemes entitlements broken down by intertwined schemes and social security, end-of-year 2015

59. As explained above, it is a priori not expected that a lot of non-European countries would provide data for column G, as this would only be relevant when no clear distinction can be made whether a scheme is an employment-related scheme or a social security scheme. For instance, in the case of Canada and the United States, all general government employment-related pension liabilities are recorded in the central framework of the national accounts. Pensions recorded outside the central framework only concern schemes that can be fully regarded as social security. Of the non-European countries, only Israel provided data for column G, explaining that this refers to fully defined benefit plans of active employees and retirees of the government for workers hired until 2004. After 2004, all new employees entered a defined contribution pension plan. Japan also identified intertwined defined benefit schemes for government employees managed by the general government (column G) but they lacked data sources to provide estimates (as in the case of social security).

Recommendation 1: Non-EU countries should only report data in column G when it concerns intertwined schemes (i.e. for which it is not possible to clearly distinguish whether it is employment-related or social security). If the relevant scheme is not intertwined, it should be recorded in another column.

4.1.2. Obtaining actuarial estimates for defined benefit schemes

60. For defined benefit schemes, the amounts of the future benefits have been agreed upon in advance, which means that their entitlements have to be derived on the basis of an actuarial estimation. For schemes managed and/or administered by private units, pension data are usually available and based on business accounting or supervisory data sources. However, for defined benefit schemes managed and administered by general government (which may concern employment-related or social security pension schemes), such data may not always be readily available. For non-European countries, according to the information as provided in the pension metadata sheets received so far, only Mexico and the United States have direct information available as calculated by actuarial entities. In case data is lacking, estimates may need to be compiled by the statistical agency, or an
alternative government agency. The key assumptions for compiling these estimates relate to the benefit formula, the discount rate, the wage growth and demographic data. As this information may not always be available at the statistical office or central bank, this may require involvement of other government agencies.

\textit{a. Obtaining actuarial estimates for social security and intertwined schemes (columns H and G)}

61. For Israel, the liabilities of the social security pension (column H) refer to old age and survivors at the date of the financial statements. As shown in Table 4.1 below, the discount rate used for calculating these pension liabilities, as well as for the liabilities as included in column G, is the interest on government zero coupon bonds and has been determined by the national insurance institute actuary. In the case of the United States, social security pension schemes cover the old age and survivor insurance and the disability insurance (OASDI) programs.\(^{17}\) The discount rate is determined by the social security administration and is based on estimates about the real interest rate for special public-debt obligation issuable to the trust funds and the consumer price index. In the case of Canada, social security funds (Canadian Pension Plan (CPP) and the Quebec Pension Plan (QPP)) are not presented on an accrued-to-date entitlement basis. These concern unfunded plans that are considered to have a fully funded status at any given time.\(^ {18}\) This implies that it is treated as if it was a defined contribution scheme, as a consequence of which assumptions on the discount rate as well as wage growth and demographic developments are currently not relevant.

62. For Mexico, column H corresponds to public pension schemes with public management (defined benefit, defined or notional contribution). The basis for these estimates are actuarial projections made primarily with the Projected Benefit Obligation (PBO) method and estimates from the social security funds.

63. Japan also identified a social security pension system (column H) as well as intertwined defined benefit schemes for government employees managed by the general government (column G), but due to lacking data sources they have not been able to provide estimates yet. The data for Colombia and Costa Rica are confidential. As noted earlier, Chile and New Zealand do not have social security pension schemes.

\(^ {17}\) The OASDI provides monthly benefits designed to replace, in part, the loss of income due to retirement, disability or death. Entitlement to benefits and benefits levels are related to earnings in covered work and defined by law. Coverage is nearly universal; about 96\% of U.S. jobs are covered. The program is a pay-as-you-go system where contributions of current workers are used to pay the benefits of prior generations. It is financed by payroll and self-employment taxes with contributions from both employers and employees. The full-benefit retirement age is 67 for beneficiaries born after 1960.

\(^ {18}\) As explained in “Understanding Financial Accounts”, OECD, 2017, pp. 319 “The CPP is a partially funded, public, defined benefit pension scheme. It started as a pay as you go scheme but was reformed into a partially funded scheme in the 1990s, to cope with the challenges posed by the ageing society” when future contributions and benefits of current workers and future generations are included on an open group basis (projecting as far out as 150 years), the pension scheme has assets that are nearly equal to liabilities. Canada further explained that for reporting purposes, and due to data gaps surrounding actuarial estimates of the pension entitlements, these social security funds were treated as fully funded (net assets = pension entitlements). As such, neither the closed group or open group approached was applied. Statistics Canada is currently working with OFSI (The Office of the Superintendent of Financial Institutions) to collect pension entitlement data. However, in reality they are considered funded on a “steady-state” basis which is a hybrid between a fully funded and “pay-as-you-go” plan.
### Table 4.1. Actuarial information regarding column social security pension schemes (H)

<table>
<thead>
<tr>
<th>Country</th>
<th>Discount rates</th>
<th>Based on</th>
<th>Wage growth assumption (PBO recommended)</th>
<th>Demographic assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Not available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>Exists but Not available</td>
<td>Exists but Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Not available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>Not available</td>
<td></td>
<td>National insurance institute actuary’s interest of the government zero coupon bond (also for column G)</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Not available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>3%</td>
<td></td>
<td>Federal government reports/pensioners (Mexican Social security institute and institute of security and social services of state workers)</td>
<td>PBO Not available</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>5.781% for 2010-2012, 5.678 from 2013-2014, 5.370% from 2015-2017, and 5.165% for 2018</td>
<td>Social security Administration estimates about the real interest rate for special public debt obligations issuable to the trust funds and the CPI.</td>
<td>ABO Determined by the Social security Administration and based mainly on mortality projections.</td>
<td></td>
</tr>
</tbody>
</table>

*Note: PBO stands for Projected Benefit Obligation which take into account carrier progression; ABO stands for Accumulated Benefit Obligation (ABO) and does not take into account any future salary increase.*

64. As was explained above, direct actuarial estimates of social security pension entitlements are rarely available (as can be derived from the metadata sheets provided to the OECD Secretariat), as a consequence of which additional estimates may have to be compiled. For this reason, a further exchange of best practices in deriving the relevant estimates might be useful. This may assist countries in coming up with proper estimates and would enhance cross-country comparability of the results.

*Recommendation 2: Countries are encouraged to exchange current practices in compiling actuarial estimates for social security pension entitlements (and possibly for other defined benefit schemes managed by general government for which direct actuarial information is lacking).*
b. Obtaining actuarial estimates for privately managed defined benefit schemes: Column B

Whereas estimates are often available for privately managed defined benefit schemes, the metadata shows that in most of the cases, these have not been obtained from actuarial information (as shown in Table 4.2). This means that national statistical offices and central banks may have only little access to information from national association of actuaries, and often need to rely on various assumptions to arrive at the relevant estimates. For that reason, a further exchange of best practices might also be useful for these types of schemes, assisting countries in coming up with proper estimates and enhancing cross-country comparability of the results.

Table 4.2. Actuarial information regarding privately managed DB schemes: Column B

<table>
<thead>
<tr>
<th>Country</th>
<th>Discount rates</th>
<th>Based on</th>
<th>Wage growth assumption (PBO recommended)</th>
<th>Demographic assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not available¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Not computed</td>
<td>Not computed</td>
<td>Not collected</td>
<td>Not collected</td>
</tr>
<tr>
<td>Chile</td>
<td>Not available²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>Exists but not available</td>
<td>Exists but not available</td>
<td>Not Available</td>
<td>Not available</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Not available³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>Not available³</td>
<td>This item is calculated by the actuaries of the pension funds in accordance with the directives of the supervisor of insurance of the ministry of finance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Not available⁴</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>Public corporations: 8%, private corporations: 6%</td>
<td>Financial statements of parastatal sector, development banking, Energy sector, INEGI, Financial asset AF. 64</td>
<td>PBO</td>
<td>Not available</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>5% for 2010-2012; 4% for 2013-after</td>
<td>The Fed’s AAA corporate bond rate</td>
<td>ABO</td>
<td>Not available to the Fed for each plan</td>
</tr>
</tbody>
</table>

Note: 1: A and B are compiled at total level and cannot be separated out at this stage; 2: No information is available for column B; 3: The information in columns A & B is confidential for Costa Rica; 4: B is derived as C less A.

It is interesting to note that the available discount rates (for Mexico and the United States) can also be quite different across schemes and evolving over time when looking at private defined benefit schemes (column B). The United States uses for column B, the Fed’s AAA corporate bond rate which stands at 5% for 2010-2012 and 4% for 2013 and after. Mexico uses the discount rate applied in the actuarial estimating model which varies significantly between public and private companies (respectively 8% and 6%).

Recommendation 3: Countries are encouraged to exchange current practices in compiling actuarial estimates for defined benefit entitlements for employment-related schemes in case direct actuarial information is lacking.
4.2. Cross table consistency of D8 and F63 in non-financial and financial accounts.

67. Several items as included in Table 2900 already appear in the central framework and this provides the opportunity to check their consistency across the relevant tables. This concerns D61 (the increase in pension entitlements due to social contributions) and D62 (the reduction in pension entitlements due to payment of pension benefits) as well as D8 (the adjustment for the change in pension entitlements). It should be clarified that for D61 and D62, Table 2900 would only include pension related flows, whereas the relevant flows in the non-financial sectoral accounts also include other non-pension social contributions and benefits. One would thus expect to observe higher values for D61 and D62 in the non-financial sectoral accounts than in the new Table 2900.

68. As set out in more detail above, D8 as included in the pension table, is defined as the increase in pension entitlements due to social contributions (D61) plus other (actuarial) change of pension entitlements in social security schemes (D619) less the reduction in pension entitlements due to payment of pension benefits (D62); see § 9.20 to 9.25 of the 2008 SNA, and relevant excerpts in Annex D. For that reason, for the columns that are also recorded in the central framework of the national accounts, one would expect D8 in Table 2900 to be equal to the corresponding data provided in Table 800 on non-financial accounts by sector, at least if the results are based on the same underlying assumptions (please note that this need not necessarily be the case, particularly with regard to the discount rate (see further on)). The same goes for the flow and stock measures of the entitlements (F.63 and AF.63 respectively) which, for the relevant columns, should be consistent with data provided in Table 610 on consolidated financial accounts by sector and Table 710 on consolidated balance sheets for financial assets and liabilities per sector, respectively, once again if the estimates are based on the same assumptions. Actually, this latter consistency can rarely be checked, because F63 data is often lacking in the financial tables, but if it can be checked, as done by the OECD Secretariat in line with the checking procedure adopted by Eurostat, it shows that the relevant numbers match reasonably well for non-European countries, given this is the first transmission of the Table 2900.

69. SNA 2008, § 11.107, notes that pension entitlements show the extent of financial claims both existing and future pensioners hold against either their employer or a fund designated by the employer to pay pensions earned as part of a compensation agreement between the employer and employee. The only transaction for pension entitlements recorded in the financial accounts is the sum of the difference between net contributions receivable and benefits payable, any transfer of entitlements between pension schemes, and the impact of a negotiated change in the structure of the scheme. The increase in pension entitlements (F63) in the financial account (Table 610) is thus equivalent to the entry in the use of income accounts for the change in pension entitlements (D8) plus any transfer of

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19 See Table 8.4 in the SNA 2008.
20 For some European countries, this will actually not be the case as the SNA 2008 and ESA 2010 introduced a new instrument F65 “Entitlements to non-pension benefits”. In order to reflect contributions to such funded social insurance schemes as part of the saving, these have to be recorded as part of D8. It is an omission in the manuals that the D8 title does not reflect this non-pension component of social insurance. SNA 2008 mentions it in the chapter 17 (see table 17.5), but the description of D8 does not make any reference to it.
21 Actually, D8 is not available for a number of countries. It is expected that the compilation of the table on pensions will resolve the issue in the medium term.
entitlements from a previous pension manager (D81) plus any change related to a negotiated change in the scheme structure (D82). The latter transactions should coincide with the relevant flows in the pension table.\textsuperscript{23} Furthermore, the end-of-period stock measure of the entitlements, as included in the pension table, should equal AF63 in Table F710 representing (consolidated) financial balance sheets.\textsuperscript{24}

4.2.1. Derived cross table consistency checks

70. The consistency rules according to the above definitions are presented in Table 4.3, and applied to the data delivered by the countries. The rules are obviously valid both for European and non-European countries, although it should be flagged that the use of different discount rates for Table 2900 and the standard tables may affect the consistency for some European countries. This will most likely not be the case for non-EU countries under the assumption that the results for Table 2900 are derived on the basis of the same discount rates as used for the results in the central framework.

\textsuperscript{23} It is worthwhile clarifying here that the codification of the pension table is somewhat misleading as the items D81 and D82 mentioned above do not add up to D8 which initially confused some non-European data providers. This was clarified by the OECD Secretariat with the relevant countries where necessary.

\textsuperscript{24} Data from the non-consolidated financial accounts tables and balance sheets (respectively tables 620 and 720) is used if no data is available in the primary source (the consolidated tables 610 and 720).
### Table 4.3. Cross table consistency rules (as applied to non-EU countries)

<table>
<thead>
<tr>
<th>Check</th>
<th>Pension table 2900</th>
<th>Table 800 (14a)</th>
<th>Table 610 (Transactions-consolidated)</th>
<th>Table 710 (Stocks-consolidated)</th>
<th>Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D8+D81+D82</td>
<td></td>
<td>F63, Liabilities (S11+S12+S1M+S13)</td>
<td></td>
<td>T2900=T610</td>
</tr>
<tr>
<td></td>
<td>All Central framework (C+D+E+F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>D8+D81+D82</td>
<td></td>
<td>F63, Liabilities (S11+S12+S1M)</td>
<td></td>
<td>T2900=T610</td>
</tr>
<tr>
<td></td>
<td>private (C+E)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>D8+D81+D82</td>
<td></td>
<td>F63, Liabilities (S13)</td>
<td></td>
<td>T2900=T610</td>
</tr>
<tr>
<td></td>
<td>government central framework (D+F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>D8</td>
<td>D8 (S1)</td>
<td></td>
<td></td>
<td>T2900='T800'</td>
</tr>
<tr>
<td></td>
<td>All Central framework (C+D+E+F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(D+F)</td>
<td></td>
<td></td>
<td>D8</td>
<td>T2900='T800'</td>
</tr>
<tr>
<td>6</td>
<td>D8, government Central framework (D+F)</td>
<td>D8P (S13)</td>
<td></td>
<td></td>
<td>T2900='T800'</td>
</tr>
<tr>
<td>7</td>
<td>D62 (i.e.D6211+D6221), D61, D611, D6121, D6131, D6141 government both central framework and supplementary table only (D+F+G+H)</td>
<td>D62P, D61R, D611R, D612R, D613R, D614R (S13)</td>
<td></td>
<td>T2900=T800</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>AF63 (closing stock) Private (C=E)</td>
<td></td>
<td></td>
<td>AF63, Liabilities (S11+S12+S1M)</td>
<td>T2900=T710</td>
</tr>
<tr>
<td>9</td>
<td>AF63 (closing stock) government central framework (D+F)</td>
<td></td>
<td></td>
<td>AF63, Liabilities (S13)</td>
<td>T2900=T710</td>
</tr>
</tbody>
</table>

71. Consistency across financial and non-financial table is difficult, especially as different institutes may be responsible for the relevant results. Therefore the Secretariat is aware of the challenges, and encourages countries to apply the above mentioned identity checks in compiling the data, and, in case results are compiled by different institutions, to liaise to discuss any differences in the results.

72. Annex C provides a more detailed overview of the consistency checks, as performed by the OECD Secretariat. The first three indicators check the consistency of the sum of D8, D81 and D82 in Table 2900 with the flow measure of entitlements F63 in Table 610 (financial accounts, consolidated). It shows that the consistency for non-European countries for these indicators are quite good, particularly given this is the first submission of the T2900.

73. Indicator 4 checks the consistency of D8 in Table 2900 and Table 14a in the OECD database on non-financial accounts by sector (which is fed by Table 800 of the delivery programme). It is expected that D8 for the relevant columns of Table 2900 would match D8 for S1 in Table 14a/800 for all non-European countries, as the discount rate is assumed
to be the same for the two tables. This is actually the case for most non-European countries which were able to provide data (Canada, Chile, Colombia, Costa Rica and Japan). A discrepancy was observed in the case of Mexico, as D8 presented in the core Table 14a/800 is about 9 times larger than the one in Table 2900.

74. Indicators 8 and 9 check respectively the consistency of the stock measure of entitlements AF.63 (end of period) for the private pension schemes (C+E) and for government (D+F) of Table 2900 with AF.63 for the sum of S11, S12 and S1M and for S13 in Table F710 (consolidated financial balance sheets). For those non-European countries that provided the relevant data, the results match quite well.

75. Cross-table consistency issues are also being investigated thoroughly by Eurostat and the European Central Bank in the context of the Working group on Sectoral Accounts. It is assumed that the 2019 cycle of benchmark revisions (the results of which have not been incorporated in this paper) will improve the cross-table consistency for European countries.

Recommendation 4: Countries are encouraged to apply the consistency checks as presented in Table 4.3 in compiling the results for Table 2900.

4.3. Delineation issues beyond Table 2900

76. Non-European countries, when compiling Table 2900, may encounter the same delineation issues as currently being discussed at Eurostat, e.g. relating to the distinction between social insurance and social assistance; social security schemes versus employment-related schemes; and individual pension schemes versus social insurance schemes. The work of the Eurostat Expert group on Sector Accounts and the Pension Expert Group as well as the first data transmission of the results for the Table 2900 to Eurostat indeed revealed differences in the recording of pension related social insurance schemes across national accounts tables, as the boundaries of social insurance were not always interpreted in the same way. This section discusses some of these delineations in more detail.

4.3.1. Social Insurance/Social assistance

77. As noted in § 8.90 of the 2008 SNA, there is a fundamental difference between benefits provided by government under social security and those provided under social assistance. It is explained in § 8.91 that social security schemes relate to contributory schemes, as a consequence of which there is some sort of contract between the government and the beneficiaries. [...] On the other hand, for social assistance, there is no need for a contribution to a certain scheme to receive the benefits, although there usually are certain (income related) conditions (e.g., the households are means tested).

78. As highlighted in § 8.93 of the 2008 SNA, the extent to which social assistance provides income to households varies extensively from country to country. In some countries, there may hardly be any social security, and all provision of income by government to meet social needs is provided without concomitant contributions. In the case a country provides universal pension benefits which are not conditioned by any contribution, these amounts will not be shown in Table 2900, as the latter table only

25 Non-consolidated financial balance sheet data are used for the comparison of the United States.
includes social insurance pension schemes. This also underlines the importance of further exploring the table of household retirement resources, as these social assistance benefits may not only constitute an important part of retirement income and household retirement assets, but also implicit liabilities of the government.

79. Eurostat maintains, in the context of its pension working group meetings, a “living” document on “borderline (cases) of social insurance, private pensions and life insurance”, which highlights some European country cases where boundaries of social insurance were not always interpreted in the same way by national accounts compilers. Several cases for which the classification was not clear on the basis of the characteristics of the scheme have been discussed. This for example concerns a scheme recorded as second pillar for which one of the three sources financing the scheme is payable out of state budget, with no relation to contributions, however payable only to members contributing to the scheme, thus representing a borderline case between social insurance and social assistance.

4.3.2. Social Insurance/Individual insurance

80. § 17.94 of the 2008 SNA explains that many social insurance schemes are organized collectively for groups of workers, so that those participating do not have to take out individual insurance policies in their own names. In such cases, there is no difficulty distinguishing social insurance from insurance taken out on a personal basis. However, some social insurance schemes may permit, or even require, participants to take out policies in their own names. The determinants for the insurance to qualify as a social insurance policy are that the benefits must be of the social benefit type and an employer makes an actual or imputed contribution to the scheme on behalf of an employee (see the full SNA 2008 definition of social insurance with criteria in Section 1). § 17.97 notes that individual insurance policies that do not qualify as social insurance are described as individual insurance not qualifying as social insurance, or in short as other insurance.

81. § 17.51 of the 2008 SNA further elaborates on the difference between (individual) life insurance and social insurance. A major difference in the recording of a normal life insurance policy and one qualifying as social insurance policy is that under the former, the benefits from the policy are treated as run-downs of wealth, only reflected in the financial accounts. For a policy qualifying as social insurance, the benefits (pensions) are recorded as income in the secondary distribution of income account (and the ones relating to employment-related social insurance also in the financial accounts). The reason for the different treatment is that an individual policy other than social insurance is entered into entirely on the initiative of the policyholder. Policies that qualify as social insurance reflect the intervention of a third party, usually the government or the employer, to encourage or oblige the policyholder to make provision for income in retirement.

82. According to the above guidance, individual insurance does not qualify as social insurance and should be excluded from the pension table. This is actually the case for New

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27 The OECD is exploring the possibilities for collection of additional information in a table on household retirement resources to obtain more insight in resources that resident households have accrued with regard to their retirement. This table is still under development.


29 The cases will be examined as part of the updating of the Eurostat and European Central Bank Technical Guide for Pension Data in National Accounts, to be released next year.

30 Defined percentage of obligatory social security pension contributions; defined percentage of participant wages; defined percentage of the country’s average wage additionally paid by the state budget.
Zealand where for instance the “Kiwi saver” pension plan is considered as a “third pillar” individual insurance plan and is therefore not considered to be part of social insurance.

83. Eurostat (2019b), page 8, raises an example of private occupational schemes (collective company pension plans) for which the creation is a voluntary decision of a company; once it is created, it is offered to all employees of a company, but employees may refuse to enter the scheme. Accumulated amounts are normally blocked until retirement, but in some cases, the beneficiary can request early release of the amounts, including the need to cover debts, acquisition of principal residence or its repair in case of natural disaster, expiration of rights to unemployment benefits. Even if the scheme is collective and employment-related, taking into account its rather voluntary nature on both sides as well as the possibility to withdraw accumulated funds for reasons other than retirement, such as scheme could possibly be considered as an individual insurance rather than as pension in social insurance. Such cases are being further investigated in the context of the Eurostat expert group.

84. Eurostat and the ECB are currently drafting a report on social and individual insurance borderline issues, which includes a decision tree for deciding when a pension schemes can be considered as social insurance. This supplementary guidance on how to delineate social and individual insurance will also be very useful for non-EU countries, and it is intended to reflect this additional guidance in an update of the guidelines for the table on social insurance pension schemes.

Recommendation 5: Compilers should be aware of difficult borderline cases in compiling results for Table 2900 and they are encouraged to share information on these cases to help in further improving the guidance on how to delineate between the various types of schemes.

5. Concluding remarks / going forward

85. This paper presented first results of the OECD data collection on social insurance pension schemes according to Table 2900. This table, for which data collection for non-European OECD countries started in 2018, provides a comprehensive overview of liabilities and entitlements of all social insurance pension schemes in an economy, both those that are recognised in the central framework of the national accounts and those that are not. Furthermore, the paper discussed specific issues as encountered in the compilation of these results (e.g. the delineation between the various schemes, the calculation of actuarial estimates, and cross-domain consistency), making recommendations to further improve the estimates and to further enhance cross-country comparability.

86. WPFS delegates are asked to provide feedback on these first results and on the recommendations as included in the paper. This may help countries in further improving their estimates and to further enhance the coverage of the table. In that respect, it has to be stressed that several countries explained that the current results should be regarded as provisional and that these may be updated on the basis of feedback obtained during and after the meeting.

87. WPFS members are also asked to share plans to update their results or, in case of countries that did not yet provide results for Table 2900, to inform when they plan to start providing first estimates. In this regard, the OECD Secretariat would also like to stress the

31 www.kiwisaver.govt.nz/
importance of the metadata sheets, as these provide very important information to properly interpret the results as included in the tables and as these may help in further developing guidance to assist countries in compiling the relevant results.

88. Finally, WPFS members are asked to share their thoughts on the inclusion of these results in the public OECD databases. Dependent on the time schedule for new and updated results, a publication could be foreseen for the first half of 2020.
Bibliography


Annex A. Layout of the OECD table on social insurance pension schemes

Columns of Table 2900

The OECD table on social insurance pension entitlements covers all positions and flows of pension entitlements of all schemes in social insurance. The columns represent the multiple types of pension schemes:

Column A: This column refers to defined contribution (DC) schemes that are recorded in the central framework of the national accounts, and that are managed by non-general government entities. This means that it may be managed by non-financial corporations, financial corporations, households in their role as employer, and non-profit institutions serving households. It will depend on the sector classification of the pension administrator in which sector these liabilities appear in the central framework of the SNA.

Column B: This column refers to defined benefit (DB) schemes that are recorded in the central framework of the national accounts, and that are managed by non-general government entities. This means that it may be managed by non-financial corporations, financial corporations, households in their role as employer, and non-profit institutions serving households. Information on other non-defined contribution schemes that are managed by non-general government entities should also be reported under column B. These schemes are often described as hybrid schemes as they combine the characteristics of DC and DB pension schemes. As for column A, it will depend on the sector classification of the pension administrator in which sector these liabilities appear in the central framework of the SNA.

Column C: This column represents the total of non-general government pension schemes (column A + B). For some countries, it may be difficult to distinguish between private DC and DB pension schemes. In this case, only column C can be completed.

Column D: This column refers to defined contribution (DC) schemes that are recorded in the central framework of the national accounts, and that are managed by a general government unit. This usually concerns employment-related schemes for government employees. It may be administered by the government or by an autonomous pension fund. In the former case, the liabilities appear under the general government sector in the central framework of the national accounts, whereas in the latter case they are recorded under the financial corporations’ sector.

Column E: This column refers to defined benefit (DB) pension schemes for general government employees (its current and former employees) that are recorded in the central framework of the national accounts, and that are managed by a general government unit, but administered by an autonomous pension fund. Because of the latter, the pension liabilities reported under this column are classified in the financial corporations sector in the central framework of the SNA. These schemes are public schemes and generally cover pension funds for civil servants.

Column F: This column refers to defined benefit (DB) pension schemes for general government employees (its current and former employees) that are recorded in the central framework of the national accounts, and that are managed and administered by a general government unit. Unlike pension schemes recorded under column E, the pension liabilities reported under column F are classified in the general government sector in the central
framework. These schemes are public schemes and the government is responsible for the pension provisions.

Column G: This column refers to defined benefit (DB) pension schemes for general government employees (its current and former employees) that are not recorded in the central framework of the national accounts, because they are intertwined with social security schemes. These schemes are managed and administered by a general government unit and share both characteristics of employment-related and social security pension schemes.

Column H: This column refers to social security pension schemes. These are schemes that cover the entire community, or large sections of the community, and are imposed and controlled and financed by government units and their pension liabilities do not appear in the central framework of the national accounts.

Columns I: This column sums up the information of all domestic social insurance pension schemes (i.e. columns C+D+E+F+G+H) and as a consequence reflects total social insurance pension liabilities of domestic pension schemes. It also reflects all social insurance pension entitlements acquired or held by resident and non-resident households towards domestic pension schemes.

In addition to columns reflecting the flows and positions of social insurance pension liabilities of the various types of pension schemes in the domestic economy, the social insurance pensions table also includes columns to reflect the counterparts of these liabilities, and an additional column to derive total pension entitlements of resident households. The relevant columns concern:

Column J: This column reflects which part of the social insurance pension liabilities of domestic pension schemes (i.e. column I) relates to resident households.

Column K: This column reflects which part of the social insurance pension liabilities of domestic pension schemes (i.e. column I) relates to non-resident households. This often relates to pension entitlements accrued by non-residents as part of their (current or former) employment in the domestic economy.

Column L: This column reflects social insurance pension entitlements acquired by resident households in the rest of the world. As with column K, this often relates to their (current or former) employment abroad on the basis of which they accrued pension entitlements with non-resident pension schemes. This may both concern entitlements with employment-related and social security pension schemes abroad.

Column M: This column reflects the total social insurance pension entitlements as accrued by resident households. It is equal to the sum of columns J and L.

Rows of Table 2900

The rows in the table contain a full reconciliation between the opening stock of pension liabilities and entitlements at the beginning of a period, and the closing stock at the end of a period.

Rows 1 and 10: Pension liabilities (and entitlements) (LS_F63 & LE_F63): Row 1 (LS_F63) illustrates the opening stock of pension liabilities (for columns A, B, C, D, E, F, G, H, I) and entitlements (for columns J, K, L, M), which is identical to the closing stock of the previous year. The corresponding closing stock of pension liabilities and entitlements at the end of the relevant period is presented in row 10 (LE_F63).
Rows 2.1 and 2.3: Actual social contributions (D6111 & D6131): Employer and household actual social contributions are recorded in respectively rows 2.1 (D6111) and 2.3 (D6131). Note that all these contributions are recorded in the central framework of the national accounts, including those for columns G and H. For these latter columns these are the only entries, together with the information recorded in row 4, that appear in the central framework.

Row 2.2: Employer imputed social contributions (D6121): In some cases imputations are made to account for part of the social contribution to be paid by the employer. For defined contribution schemes this is only the case when the employer operates the pension scheme himself.

For defined benefit pension schemes, employer imputed social contributions are generally measured as a residual. In addition to this residual amount, row 2.2 also covers so-called ‘experience effects’ where the observed outcome of pension modelling assumptions, such as with regard to wage growth, the inflation rate and the discount rate, differs from the levels assumed (see for more information §17.136 of the ESA 2010). In the table, imputed social contributions derived in this way apply to all defined benefit schemes, including the ‘intertwined’ pension schemes as included in column G. Please note, however, that it does not apply to social security schemes. All ‘other’ changes in pension entitlements in social security pension schemes should be reflected in row 3 (see below).

Row 2.4: Household social contribution supplements (D6141): Row 2.4 relates to the property income earned, or imputed, on the stock of pension entitlements during the accounting period. In the national accounts, this income is treated as being received by the policyholders and paid back into the pension scheme via social contribution supplements. The calculation of the amount differs between defined contributions and defined benefit schemes.

Row 2.5: Less: Pension scheme service charge (D61SC): Set against the social contributions is the service fee charged by the unit administering the pension scheme. This may be an explicit or an implicit charge and is treated as being paid by households as part of their final consumption expenditure. It should be deducted from the contributions paid to arrive at the net social contributions. It is presented as a separate item in the table, but in some cases it may already have been reflected in lower values of the social contributions recorded in rows 2.1 to 2.4. In the latter case, the row can be left empty.

Rows 3: Other (actuarial) changes of pension entitlements in social security pension schemes (D619): For defined benefit pension schemes (including the ‘intertwined’ schemes in column G) the difference between the increase in pension entitlements from current service plus the cost of operating the scheme on the one hand, and the actual social contributions on the other hand, is recorded as employer imputed social contributions (see row 2.2). An item calculated on the same basis is shown in row 3 as “other (actuarial) accumulation of pension entitlements in social security funds” for social security pension schemes. In correspondence with the recording of row 2.2 for defined benefit schemes, row 3 also includes so-called ‘experience effects’ with regard to social security pension liabilities. These occur when the observed outcome of pension modelling assumptions (with regard to wage growth, discount rate, etc.) for social security pensions differs from the levels assumed in the previous estimation (see also row 2.2).

Row 4: Reduction in pension entitlements due to payment of pension benefits (D62): Row 4 comprises the pension benefits that are paid out during the recording period. The payment of pension benefits has the effect of ‘settling’ some of the liabilities/entitlements included
in the opening stock in Row 1 and is therefore reflected as a reduction in the liabilities/entitlements.

Row 5: Change in pension entitlements due to social contributions and pension benefits (D8): Row 5 shows the changes to pension entitlements due to net (actual and imputed) social contributions and pension benefits. It is equal to the sum of rows 2 and 3 minus row 4.

Row 6: Transfers of pension entitlements between schemes (D81): Row 6 records any transfers of pension liabilities from one scheme to another, which may for example occur when employees change jobs.

Row 7: Change in entitlements due to negotiated changes in scheme structure (D82): In response to demographic and economic changes, pension managers may decide to reform their pension schemes. This may for example involve a change of the retirement age, the indexation rule or the benefit formula. Some of these reforms may affect the current pension liabilities and should therefore be reflected as a change of the liabilities/entitlements. Changes to pension entitlements that are imposed without negotiation are recorded as “other changes in the volume of assets” (included in row 9).

Row 8: Changes in entitlements due to revaluations (K7): Row 8 shows changes in pension liabilities due to revaluations. For defined contribution schemes these correspond to the holding gains and losses on the assets held by the scheme to meet the obligations (see §17.142 of the 2008 SNA). For defined benefit schemes these relate to changes to the key model assumptions in the actuarial calculations. These assumptions concern the discount rate, the wage rate and if used in the model, the inflation rate. Please note that it does not include changes related to alterations in demographic assumptions. These should be reflected in row 9 (see below).

Row 9: Changes in entitlements due to other changes in volume (K5): Row 9 shows the changes in pension liabilities due to other changes in volume. This for example relates to changes in demographic assumptions used in the actuarial calculations or to changes in the retirement patterns, as long as they do not derive from negotiated reforms or legislative reforms approved by parliament (in that case, they should be recorded under row 7). Furthermore, it includes changes in the general framework of the actuarial model applied to improve the accuracy of the results.

Row 11: Assets held by schemes at end-year (LE_F_NG): Row 11 covers the amount of assets, both financial and non-financial, held by the pension scheme at the end of the recording period. In relation to row 10, this provides information on the level of funding of the schemes. The amount of assets will largely depend on the type of scheme. For defined contribution schemes, the amount of assets will be equal to the amount of pension liabilities (except for any own assets and for liabilities other than pension liabilities). For defined benefit schemes it will depend on whether the scheme is setup as a funded scheme (in which the contributions receivable in a period are used to accumulate assets to fund the future benefits of the contributors) or as a pay-as-you-go scheme (in which the contributions receivable in a period are used to fund the benefits payable in the same period).
## Annex B. The OECD table on social insurance pension schemes

```
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<th>Row number</th>
<th>Position / transaction / other flows</th>
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<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I = C to H</th>
<th>J</th>
<th>K</th>
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<td>Change in pension entitlements due to transfers of entitlements</td>
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<td>Change in entitlements due to negotiated changes in scheme structure</td>
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<th>Liabilities appear in the core national accounts</th>
<th>Liabilities do not appear in the core national accounts</th>
<th>Counterparts: Entitlements of</th>
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<tr>
<td>Non-general government</td>
<td>General government</td>
<td>General government employee defined benefit schemes</td>
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<td>Defined contribution schemes</td>
<td>Defined benefit schemes</td>
<td>In the financial corporation sector</td>
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<tr>
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<td>Social security pension schemes</td>
<td>Total social insurance pension liabilities of domestic pension schemes</td>
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<tr>
<td>Total</td>
<td>Non-resident households</td>
<td>Social insurance pension entitlements of resident households in the rest of the world</td>
</tr>
<tr>
<td>Pension entitlements</td>
<td>Resident households</td>
<td>Total social insurance pension entitlements of resident households</td>
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</table>

Unclassified
Annex C. Cross table consistency checks

Indicator 1 - Compares total F63Li in T610 (720 for US) with sum D8D81D82 for central framework in T2900

Indicator 2 - Compares F63L(S11_S12_s1M) in T610 (720 for US) with sum D8D81D82 in T2900 (C+E) -> T610 = T2900 (e.g. ratio=1)
**Indicator 3** - Compares AF63L(S13) and D8D81D82 (D+F) => T610=T2900 (e.g. ratio = 1)

**Indicator 4** - Compares D8 for S14_S15 (or S1) in T800/T14a with D8 Central Framework (C+D+E+F) in T2900. => T800=T2900 (eg ratio = 1)

**Indicator 5** - Compares private D8 in T800/T14a and T2900 -> T2900=T800 (e.g. ratio = 1) for D8
Indicator 6 - Compares D8 of S13 in T800/T14a with D8 of S13 Central framework (D+F) in T2900
- \( \rightarrow T2900 = T800 \) (if ratio =1)

Indicator 7 - Compares D62P S13 in T8 with D62 (D+F+G+H) in T29
- \( \rightarrow T29 < T8 \) (e.g. ratio<1)
Indicator 8 - Compares F63 Stock of assets (S11+S12+S14_S15) in T710 with sum of F63 end of period (C+E) in T2900
-> 710/(720 for US)=T29 (e.g. ratio=1)

Indicator 9 - Compares F63 Stock of assets (S13) in T710 with sum of F63 end of period (D+F) in T2900
-> 710/(720 for US)=T29 (e.g. ratio=1)
Annex D. Definition of the Adjustment for the changes in pension entitlements, D8 (SNA 2008, § 9.20 – 9.25)

SNA 2008 § 9.21 explains that pension schemes are treated in the SNA as having liabilities towards the households with claims on the schemes. The payments of pension contributions into the schemes and the receipts of pensions by pensioners constitute the acquisition and disposal of financial assets [...]. SNA 2008 § 9.22 notes that in order to present income information that may be more useful for analysing the behaviour of the households concerned, the payments of pension contributions to all pension schemes and to social security and the receipts of pensions by pensioners’ households under both pension schemes and social security are recorded in the secondary distribution of income account as social contributions and social insurance benefits, respectively. They therefore affect the level of disposable incomes of households [...].

§ 9.23 clarifies that to the extent that contributions and benefits are not exactly equal, there is an impact on household saving. For example, if households as a whole pay more contributions than they receive as benefits, their saving is reduced by this difference. Similarly, if household benefits exceed their contributions, saving does not reflect the fact that the negative change in entitlements represents a reduction in net worth. However, as is clear in the financial account, the change in pension entitlements is part of household net worth. It is therefore necessary to adjust saving for the difference between contributions payable and benefits receivable shown in the secondary distribution of income account 2008 SNA §9.24 notes that an item described as the adjustment for the change in pension entitlements therefore appears in both the use of disposable income account and the use of the adjusted disposable income account. It is equal to:

the total value of the actual and imputed social contributions payable into pension schemes,

*plus* the total value of contribution supplements payable out of the property income attributed to pension fund beneficiaries,

*minus* the value of the associated service charges,

*minus* the total value of the pensions paid out as social insurance benefits by pension schemes.