Guidelines for the OECD Table on

SOCIAL INSURANCE PENSION SCHEMES

(Table 2900)

2020
1. **INTRODUCTION**

1. The last couple of years have seen an increasing interest in data on pensions, especially related to concerns about the solvency of pension systems and policy issues regarding generational equity in ageing societies. A lot of information can be obtained from the system of national accounts, but as the central framework only recognizes liabilities with regard to employment-related pension schemes and individual pension schemes, but not with regard to social security 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 comprehensive overview of liabilities of all social insurance pension schemes in an economy: both those which are recognised in the central framework of the national accounts and those which are not recognised in the central framework.

2. In December 2017, Eurostat collected pension data on the basis of a specific table (Table 2900) based on SNA Table 17.10 from its member countries. As of 2018 the OECD has started collecting pension data from non-European member states on the basis of a similar table. In addition to information on pension liabilities from the point of view of domestic pension schemes, it also includes data on pension entitlements from the viewpoint of resident households. This OECD table was presented at the joint meeting of the OECD WPFS and the WPNA in November 2017 after which a consultation was conducted to obtain information about the feasibility for countries to provide the relevant information and with regard to guidance on underlying assumptions that are needed in compiling some of the results. The results of this consultation have been used in finalising the social insurance table and in preparing the guidelines for completing this table.

3. In December 2020, Eurostat will perform its second round of pension data collection focusing on the year 2018. In line with the timing and focus of the Eurostat data collection, the OECD now sets out to collect pension data focusing on the year 2018 as well as, including corresponding publishable metadata in the context of its 2020-2021 data collection round.

4. This paper presents the ‘Table on Social insurance pension schemes’ and provides guidance for its completion. The paper is structured as follows. Chapter 2 describes the coverage of the table, explaining what types of schemes are included and what types are excluded. Chapter 3 then explains the various types of pension schemes that are distinguished in the table, discussing the main criteria for classifying pension schemes and providing an overview of the columns presented in the table. This also includes a description of the columns that focus on the entitlements of social insurance pensions as seen from the viewpoint of (resident and non-resident) households. Chapter 4 focuses on the rows of the table that contain a full reconciliation between the opening stock of pension liabilities and entitlements at the start of the recording period and the closing stock at the end. Subsequently, Chapter 5 provides guidance on key assumptions that are needed in compiling some of the results. This includes guidance on the discount rate, the wage growth and demographic assumptions in compiling results for defined benefit pension schemes. Chapter 6 provides instructions to complete the table and also provides explanation of the information to be reported in the metadata that accompanies the table.
2. COVERAGE OF THE TABLE

5. The OECD Table on Social insurance pension schemes covers positions and flows of pension liabilities in all pension schemes regarded as social insurance, as well as the corresponding entitlements as seen from the viewpoint of (resident and non-resident) households, including social insurance pension entitlements of resident households accrued abroad.

6. Social insurance schemes concern schemes in which policyholders are obliged or encouraged to insure against certain contingencies (such as old age, unemployment, illness, long-term care) by intervention of a third party. A scheme qualifies as social insurance when the benefits received are conditional on participation on the scheme and constitute social benefits, and when at least one of the following conditions is met: i) participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees; ii) 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; and iii) 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 (see §8.92 of the 2008 SNA). Social insurance schemes can be divided into those relating to pension benefits and those relating to all other forms of benefits. The ones relating to pension benefits mainly concern those providing income in retirement, but also cover contingencies that give rise to payments because the main income earner is no longer able, through death or incapacity, to provide an income for himself or herself and dependants (see §17.98 of the 2008 SNA). Examples of the latter are survivors’ pensions (consisting of widows’ and orphans’ pension benefits) and disability and early retirement pensions. Only positions and flows of social insurance schemes related to pension benefits are covered in the table on social insurance pension schemes.

7. Social insurance covers both social security and employment-related schemes. Social security schemes are schemes that cover the entire community, or large sections of the community, and are imposed and controlled and financed by government units (see §4.124 and §8.7 of the 2008 SNA). For that reason, these are always considered public schemes. Furthermore, they are often setup in the form of pay-as-you-go schemes, i.e. the contributions receivable in a period are used to fund the benefits payable in the same period (see §17.124 of the 2008 SNA), although this need not always be the case. Pension benefits provided via social security are commonly known as first pillar pensions. Employment-related (or occupational) schemes, on the other hand, derive from an employer-employee relationship, in which entitlement to social insurance benefits is secured as part of the conditions of employment (see §8.7 of the 2008 SNA). These may concern both schemes provided by private entities and by government in its role as employer, and may thus cover both private and public schemes. Employment-related pension schemes are often setup as funded schemes, i.e. the contributions receivable in a period are used to fund the future benefits of the contributors, although this need not necessarily be the case, particularly if the pension scheme is sponsored by the government. In that regard, it should be borne in mind that distinctions between ‘private’ and ‘public’ schemes or between ‘pay-as-you-go’ and ‘funded’ schemes are not decisive criteria in distinguishing between social security and employment-related pension schemes (see for more information Zwijnenburg (2016)). Employment-related schemes are often referred to as second pillar pensions.

8. As the table only covers social insurance pension schemes, pensions provided to beneficiaries in the form of social assistance and individual life insurance policies are not covered in the table. The main distinction between social insurance and social assistance is that eligibility to receive social assistance benefits is not dependent on having elected to participate as demonstrated by the payment of contributions (see §8.92 of the 2008 SNA). This means that social assistance benefits are payable without qualifying contributions and are normally financed via general funds (such as taxes). The main difference between social insurance and individual insurance is that the latter are entered into entirely on the initiative of the policyholder, whereas 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 (see §17.51 of the 2008 SNA). As life insurance policies are taken out by members of households on their own initiative and as it usually involves no or relatively little redistribution among the various households holding similar policies, their acquisition and disposal are only recorded in the financial accounts as savings schemes of individual households, and do not appear in the redistribution of income account (see §8.36 of the 2008 SNA). Individual insurance policies to insure against old age are usually referred to as third pillar pension schemes.

9. On the basis of the explanation above, Figure 1 provides a schematic overview of what types of schemes are included in the OECD Table on Social insurance pension schemes.

*Figure 1 Coverage of Table on Social insurance pension schemes*

![Diagram of pension schemes]

Source: Eurostat, European Central Bank (2011)

3. PENSION SCHEMES DISTINGUISHED IN THE TABLE – DESCRIPTION BY COLUMN

10. The OECD Table on Social insurance pensions distinguishes seven types of pension schemes. This distinction is based on five underlying criteria that focus on different aspects of pension schemes and their recording in the system of national accounts. Combining these five criteria leads to a meaningful breakdown of pension schemes that is both useful for compilers and users. In order to understand the types of schemes distinguished in the table, this chapter first explains the underlying criteria and then provides a description of each of the columns.

11. The table distinguishes pension schemes by five criteria:
• by type of recording: positions and flows of pension schemes recorded in the central framework of the national accounts (columns A to F), and positions and flows of pension schemes recorded only 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 to C) and by general government (columns D to H);
• by type of benefit formula: defined contribution schemes (columns A and D), and defined benefit schemes (columns B and E to H);
• by type of administrator (for government sponsored defined benefit schemes): schemes administered by an autonomous pension fund (column E) or by general government (column F);
• by type of pension scheme (for government sponsored defined benefit schemes): employment-related schemes (columns E to G) and social security pension schemes (column H).

Type of recording

12. A first distinction in the table concerns a breakdown into schemes for which liabilities appear in the central framework of the national accounts (columns A to F), and those for which liabilities are only included in the table on social insurance pension schemes (columns G and H). In that regard, it has to be borne in mind that only liabilities of employment-related schemes appear in the central framework, whereas those of social security schemes do not. The main 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. To have a comprehensive overview of all social insurance pension schemes in an economy, their liabilities are included in the social insurance pension table and separately distinguished from the schemes that are included in the central framework. 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 specific types of 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.

Type of pension manager

13. The table also classifies pension schemes according to the sector classification of their pension manager. This concerns the entity that is responsible for managing the scheme, i.e. that is 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). In relation to the latter role, the pension manager is also often referred to as ‘pension sponsor’. In case of employment-related schemes the pension manager or sponsor will usually be the employer, whereas for social security

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1 The ESA 2010 does not offer the same degree of flexibility. It provides clear legislated rules with respect to the core / non-core allocation of schemes and the concomitant recording of pension entitlements and related flows which are not fully consistent with the SNA guidance, but which do ensure a high degree of comparability of government data in Europe. According to the ESA 2010, the liabilities of all unfunded defined benefit schemes sponsored by government should only be recorded in the supplementary table in column G (see ESA 2010, para. 17.48).
schemes it is normally the government who is responsible for the setup of the scheme and who has the power
to make any adjustments to the terms of the schemes. In the table, a distinction is made between general
government being the pension manager (columns D to H) and a non-general government entity being the
pension manager (columns A to C). The latter may include non-financial corporations, financial
corporations, households in their role as employer, and non-profit institutions serving households.

**Type of benefit formula**

14. The table also distinguishes between defined contribution and defined benefit schemes. In a defined
contribution (DC) scheme, the benefits payable to an employee on retirement are defined exclusively in
terms of the level of the 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). Measuring pension obligations of DC schemes is relatively straightforward; the
entitlements depend on the performance of the financial assets that are acquired with the pension
contributions, as a consequence of which the value of the entitlements is equal to market value of the financial
assets held by the pension fund. A defined contribution is fully funded by definition. In the table they are
covered under columns A and D. For detailed information on transactions recorded for a DC pension scheme,
please see §17.133-143 of the 2008 SNA.

15. In a defined benefit (DB) scheme, the benefits payable to an employee on retirement are determined
by the use of a formula, either independently or in combination with a guaranteed minimum amount payable.
In this case, the risk of the scheme to provide an adequate income in retirement is borne either by the
employer or is shared between the employer and the employee (see §17.129 of the 2008 SNA). In accordance
with their common setup as pay-as-you-go schemes, social security pension schemes are normally also
treated as defined benefit schemes. Generally, the factors considered to estimate the defined benefits are the
years of service, the salary over a defined period of time, the age at retirement and the indexation rule.
Actuarial estimations methods, based on the concept of net present value, are used to calculate positions in
pension entitlements for these pension schemes. For pension schemes managed by private units (e.g. pension
funds), pension data are usually available and based on business accounting or supervisory data sources.
Regarding DB schemes for general government employees and social security pension schemes, such data
may not always be available and their estimations may need to be based on key assumptions, as applied in
actuarial estimation procedures. Key assumptions usually concern the discount rate, the wage growth and
demographic data. Because of their importance, they are discussed in more detail in Chapter 5. In the table,
DB schemes are recorded in columns B, E, F, G and H (the latter under the assumption that most social
security schemes indeed function as DB scheme). For detailed information on transactions recorded for DB
pension schemes, please see the 2008 SNA Manual, paragraphs 17.151 to 17.161.

16. 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.
Type of administrator (for government sponsored DB schemes)

17. In addition to the role of pension manager or sponsor, there is also the role of pension administrator. This is the entity that is responsible for the day-to-day administration of the pension scheme. 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 a financial corporation. With regard to the table, this specific distinction becomes relevant for defined benefit pension schemes managed by the general government. For these schemes a distinction is made between schemes administered by an autonomous pension fund (in which case it is classified in the financial corporations sector) (column E) and by the government itself (in which case it is classified in general government) (column F). The other schemes are not classified according to pension administrator.

Type of scheme

18. Finally, for schemes sponsored by general government, the table also distinguishes between employment-related and social security schemes. For non-general government schemes this distinction is not relevant as these will always concern employment-related schemes. However, for general government sponsored schemes it may concern both, and the distinction is relevant to assess which liabilities are already included in the central framework of the national accounts and which only appear in the social insurance pension table (see also ‘type of recording’). As some employment-related schemes may be intertwined with social security, a specific column is also included to distinguish these specific types of schemes. As the intertwining usually only concerns schemes that are not or only partially funded, it only applies to defined benefit schemes (please note that defined contribution schemes are always funded by definition). Furthermore, if a government sponsored scheme is administered by an autonomous pension fund, it is generally assumed to be an employment-related scheme. For those reasons, the category that concerns intertwined schemes that are not covered in the central framework is presented as a subcategory of ‘defined benefit schemes for general government employees – classified in general government’.

Description of the columns

19. On the basis of the criteria explained above, the following columns are distinguished in the table:

- **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 concern liabilities of non-financial corporations, financial corporations, households in their role as employer, and non-profit institutions serving households.\(^2\)

- **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 concern liabilities of non-financial corporations, financial corporations, households in their role as employer, and non-profit institutions serving households.\(^3\) 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.

\(^2\) Dependent on the sector classification of the administrator of the schemes.

\(^3\) Dependent on the sector classification of the administrator of the schemes.
- **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.

- **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. These schemes are public schemes and generally cover the pension fund(s) 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. 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 with regard to domestic pension schemes.

20. 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 pension table also includes columns to reflect the counterparts of these liabilities and 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.

21. Please find below a summary table presenting the characteristics of each pension scheme distinguished in the table on social insurance pension schemes.
<table>
<thead>
<tr>
<th>Columns of the table</th>
<th>A</th>
<th>B</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC/DB</td>
<td>DC</td>
<td>DB + Hybrid schemes</td>
<td>DC</td>
<td>DB</td>
<td>DB</td>
<td>DB</td>
<td>DB</td>
</tr>
<tr>
<td>Pension manager (PM)</td>
<td>Non-gov. units</td>
<td>Non-gov. units</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
</tr>
<tr>
<td>Pension administrator (PM)</td>
<td>Non-gov. units</td>
<td>Non-gov. units</td>
<td>Gov. unit or autonomous pension fund</td>
<td>Autonomous pension fund</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
<td>Gov. unit</td>
</tr>
<tr>
<td>Sector classification (i.e. liability of)</td>
<td>S11,S12, S14 or S15</td>
<td>S11,S12, S14 or S15</td>
<td>S12 or S13</td>
<td>S12</td>
<td>S13</td>
<td>S13</td>
<td>S13</td>
</tr>
<tr>
<td>Employment-related pension schemes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Social security pension schemes</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Private/public schemes</td>
<td>Private</td>
<td>Private</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Core accounts</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Who bears the risks: beneficiary (B) or pension manager (PM).</td>
<td>B</td>
<td>PM (and partly B for hybrid schemes)</td>
<td>B</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
</tbody>
</table>

DC: Defined contribution schemes; DB: Defined benefit schemes
PM: Pension manager
B: Beneficiary
Gov. units: Government units
4. POSITIONS AND FLOWS IN PENSION OBLIGATIONS, DESCRIPTION BY ROW 4

22. The rows in the Table on Social insurance pension schemes 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. Within this framework, all transactions and other economic flows which lead to changes in the opening and the closing stock within a given period are taken into account. This chapter provides a description of all the rows included in the table.

Rows 1 and 10: Pension liabilities (and entitlements)

23. Row 1 illustrates the opening stock of pension liabilities (for columns A to I) and entitlements (for columns J to 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.

Rows 2.1 and 2.3: Actual social contributions

24. Employer and household actual social contributions are recorded in respectively rows 2.1 and 2.3. 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. For all the other cells in these two columns, the information only appears in the table on social insurance pension schemes. For this reason, these other cells are shaded grey in the table. As social contributions may sometimes include contributions to non-pension schemes, in some cases the actual social contributions related to pensions need to be separated from social contributions related to other social risks (such as unemployment). This may particularly be the case for social security pension schemes.

Row 2.2: Employer imputed social contributions

25. 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. In that case, the value of the costs of operating the scheme is treated as an imputed contribution payable to the employee as part of compensation of employees (see §7.64 of the 2008 SNA). The same amount is also recorded as final consumption expenditure by households of these services provided by the employer. In the pension table this is reflected in row 2.5.

26. For defined benefit pension schemes, employer imputed social contributions are generally measured as a residual. It must be such that the sum of the employer’s actual contribution plus the sum of any

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contributions by the employee plus the imputed contribution by the employer equals the increase in pension benefits due to current period employment plus the costs of operating the scheme (see §7.65 in the 2008 SNA). Thus, the amount to be recorded under this item for DB schemes is equal to the accrual of pension entitlements due to employment in the current period plus the costs of operating the scheme minus all actual social contributions in the recording period. In many cases information may be available on the accrual of new pension entitlements, but otherwise these will have to be estimated on the basis of actuarial calculations. 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, as a consequence of which the cell in column H is shaded black in the table. 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**

27. 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 contribution and defined benefit schemes. For the defined contribution scheme the supplement is equal to the investment income on the funds plus any net operating surplus earned by renting land or buildings owned by the fund (see §7.148 of the 2008 SNA). For defined benefit schemes the supplements relate to the so-called past service increase and are determined by the increase in the value of the existing entitlements due to the unwinding of the discount rate. This 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 must be used to calculate the present value (see §17.147 of the 2008 SNA). This means that for defined benefit schemes these supplements are determined by a formula, and consequently they are not affected by the actual investment income and net operating surplus of the pension schemes.

28. In the central framework of the national accounts, household social contribution supplements are only recorded for employment-related social insurance pension schemes, as it directly relates to the amounts of pension entitlements as recorded in the central framework. However, in the social insurance pension table this item also becomes relevant for social security pension schemes, as the table includes entitlements with regard to these types of schemes. Part of the change in the value of these social security pension entitlements will relate to the unwinding of the discount factor. The specific amount, that has to be derived on the basis of actuarial calculations, should be recorded under this specific row.

**Row 2.5: Less: Pension scheme service charge**

29. 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**
30. 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 and the actual social contributions, 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 (see §17.202 of the 2008 SNA). In the SNA it is explained that it has been decided to show these amounts in a different row “to emphasize the probable fragility of these estimates”. It has to be noted that the entries in this row can be positive and negative. Negative cases arise when social contributions exceed the actuarially required level to finance future benefits accrued in the recording period.

31. 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**

32. 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**

33. Row 5 shows the changes to pension entitlements due to 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**

34. 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**

35. 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. Pension reforms are treated differently in national accounts, depending on whether they have been negotiated or whether they are imposed without negotiation. All negotiated reforms are recorded as transactions and are reflected in the social insurance pension table under row 7. This includes situations in which the employer/manager agrees to change the terms of pension entitlements via negotiation with the employees concerned, but also changes to pension entitlements under social security schemes as agreed in parliament. The latter are also treated as if the changes have been negotiated. 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**
36. Row 8 shows changes in pension liabilities due to revaluations which 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). Other changes in prices such as write-downs are also covered in row 8. So-called ‘experience effects’, related to differences between the observed outcome of pension modelling assumptions and the assumed levels (as explained above under row 2.2 and row 3), are not to be included here, although it may not always turn out to be possible to single them out.

Row 9: Changes in entitlements due to other changes in volume

37. 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 a legislative reform (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. Finally, it also includes changes to pension entitlements that are imposed without negotiation.

Row 11: Assets held by schemes at end-year

38. 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), whereas 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 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).

5. KEY ASSUMPTIONS IN MEASURING PENSION ENTITLEMENTS

39. The value of entitlements is derived differently for defined benefit and defined contribution schemes. For the latter, the entitlements depend on the performance of the financial assets that are acquired with the pension contributions, as a consequence of which the value of the entitlements is equal to market value of the financial assets held by the pension fund. For defined benefit schemes, on the other hand, the amounts of the future benefits have been agreed upon in advance, as a consequence of which their entitlements have to be derived on the basis of an actuarial estimation.

40. For schemes managed by private units, pension data are usually available and based on business accounting or supervisory data sources. Regarding defined benefit schemes for general government employees and for social security schemes, such data may not always be available and their estimations may need to be based on a number of assumptions, as applied in actuarial estimation procedures. The key assumptions relate to the discount rate, the wage growth and demographic data. In order to arrive at comparable data across countries, this chapter provides guidance on these three topics.
Discount rate

41. For DB schemes a suitable discount rate has to be chosen since pension entitlements are calculated in present value terms, which means that they reflect the discounted sum of present and future flows compared to a certain base year. The choice of the discount rate is one of the most important assumptions to be made in modelling pension entitlements, since its accumulated impact over many decades can be very large.

42. According to the International Public Sector Accounting Standards (IPSAS 25)\(^5\), the discount rate reflects the estimated timing of benefit payments. In practice, an entity often achieves this by applying a single weighted average discount rate that reflects the estimated timing and amounts of benefit payments and the currency in which the benefits are to be paid, often approximated by reference to market yields at the reporting date on government bonds, high quality corporate bonds or by another financial instrument.

43. In order to arrive at comparable results, the Eurostat exercise applies a fixed discount rate for all EU countries (of 3% real and 5% nominal). However, for non-European OECD countries such a fixed rate does not seem appropriate as economic differences across countries may be more pronounced, particularly with regard to nominal discount rates, bearing in mind the more substantial differences in inflation rates across non-European OECD countries. For that reason, to arrive at comparable results across countries, it is recommended that non-EU OECD countries determine the discount rates on the basis of long-term government bonds, high quality corporate bonds and/or another financial instrument which is deemed to provide the best proxy, also in relation to discount rates used for schemes included in the table for which the results have been obtained from business accounts or supervisory data. This will lead to the most appropriate rates per country and is expected to provide the best comparable results within and across countries.

44. As different countries may end up with different discount rates, it is important to also obtain metadata on the exact discount rates used by countries for the various schemes and how these have been derived. For that purpose, specific questions on the discount rate are included in the metadata sheet accompanying the social insurance pension table (see also Chapter 6).

Wage growth

45. Defined benefit schemes apply a formula to the member’s salary (final salary, an average over a period of years, or lifetime earnings) to determine the level of the initial pension. As a consequence, the latter depends significantly on expected future wage growth due to promotions/career path and general economic growth.

46. The accounting profession considers two approaches on the treatment of future wage increases:

- The Accrued Benefit Obligation (ABO) approach, which assumes that there is no future wage growth (whether nominal or real). Under this approach only the benefits are recorded that are actually accrued to date. It represents the amount the employee could walk away with if he left the firm tomorrow;
- The Projected Benefit Obligation (PBO) approach, which makes an explicit non-zero assumption for future wage growth and, therefore, takes into account expected promotions and other real or nominal wage growth factors. It provides a more prudent measure of what the eventual level of entitlement is likely to be. For an individual, the PBO makes assumptions about how many future

promotions the person is likely to receive and calculates his final salary accordingly. An adjustment is also made to consider the number of years effectively worked by the employee.

47. The PBO method is recommended by both IPSAS and IAS to measure both government and non-government sponsored pension entitlements. Furthermore, it is also recommended by the European Ageing Working Group. In line with these recommendations, countries are encouraged to apply the PBO approach in compiling estimates for defined benefit pension liabilities in the social insurance pension table. However, as this may not be possible for all schemes in all of the countries (also depending on the available source data), compilers are requested to provide information in the metadata sheet on the approach(es) applied for the various columns in the table.

**Demographic assumptions**

48. Future pension payments are also dependent on future demographic developments, in terms of age/gender balance of members and their longevity, future fertility rates and migration rates. Life expectancy determines the expected number of years the pension annuity has to be paid out. Therefore, pension entitlements vary according to the use of different life expectancies. Furthermore, since mortality rates differ widely between men and women, a gender-specific differentiation of mortality data is also necessary. Life expectancies are calculated on the basis of mortality tables established for the modelling of pension and life insurance schemes. In the case of private employer and government pension schemes, demographic data should in principle be accessible.

49. Future fertility rates may play a role in estimating entitlements for an orphan’s pension. The right to these benefits is accrued today by present contributors to the pension scheme. When a contributor dies, their dependent children – already born or not at present – will generally receive an orphan’s pension. A higher fertility rate will lead to a higher number of children receiving an orphan’s pension.

50. Migration is another factor that may influence the estimation of pension entitlements. In some countries, individual pension levels may change if contributors migrate. Other assumptions on inflation, (un)employment rate and future prevalence rates for disability can also impact the calculation of pension entitlements. If future flows are to be projected in nominal terms, the discount rate and the wage growth should include future inflation expectations.

51. As assumptions regarding the life expectancy, future fertility rates and migration may have a large impact on the results, countries are requested to provide more background information on these aspects in the metadata sheet.

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6Although the accrued-to-date method only includes the benefits that current members have earned up to the current period, the projected benefit obligation (PBO) is used to incorporate future wage growth as this may directly affect the future benefits that have been accrued so far.
6. INSTRUCTIONS TO COMPLETE THE OECD TABLE ON SOCIAL INSURANCE PENSIONS SCHEMES (2900)

52. This chapter provides instructions on how to complete the OECD table on social insurance pension schemes. The Excel-based OECD questionnaire on is SDMX-compliant and consists of the following sheets:

1. “Table”: the compiler is asked to report information on:
   a. Country in cell C3 (please use ISO-2 country code);
   b. The reference year in cell F3 (for which data are reported);
   c. End year (the last year for which data are reported);
   d. Unit multiplier in cell F7 (e.g. 6 for million, and 9 for billion);
   e. Decimals in cell F8 (the number of decimal places of the reported data);
   f. Contact details in cells C11 & C12 (contact name and email address);
   g. Data values (starting in cell F25);
   h. Observation and confidentiality status flags (control codes associated to each data point - possible values are listed within the specific cells in the questionnaire);
   i. Sender footnotes in cell J10;
   j. Embargo date if any in cell;

2. “VAL - Validation sheet”, which detects any inconsistency in reported data (within transactions and positions of each pension scheme). For any numeric difference detected, the user is asked to correct the inconsistency before sending the completed questionnaire to the OECD.

3. Parameters”: No intervention is requested for this sheet. These parameters are needed for the conversion of the questionnaire into an XML file. Please do not change any parameter in this sheet.

Missing data and zero values

54. For missing data the value should be reported as "NaN" and the associated observation status (control code) should be reported as “L” (for data that exist but are not collected) or as “M” for other reasons (e.g. not applicable). Zero values (“0”) should only be reported when data are collected and computed as equal to zero. No cells in the data field should be left blank.

Control codes

55. The user has the opportunity to associate an ‘observation status flag’ and a ‘confidentiality status flag’ to each data point reported in the questionnaire. For all other data points (when no flag is specified), the OECD will treat data as public and free for dissemination.

56. The possible values for the two categories of flags are reported within the specific cells in the questionnaire. These control codes are compliant with the SDMX standards. Detailed guidelines and definitions are available at the following URLs:

For any information on the SDMX standards for National Accounts, visit the following website: http://sdmx.org/?page_id=1498
Other technical features

57. The user will note that the data questionnaire has a locked structure and includes locked cell-fields. This measure has been implemented in order to prevent the user from changing the structure of the Excel template, which would compromise the functions of the questionnaire devices, such as the consistency checks integrated-procedure or the conversion of the Excel file into an XML file.

58. The Excel questionnaire is compatible with the 2010 version of Microsoft Office. The user is invited to contact the OECD (SNA.Contact@oecd.org) in case the file is not readable or in case of any other technical issues.

Data frequency

59. The data collection is limited to annual frequency. The target year to be provided in the questionnaire is 2018 but any other supplementary year(s) can be provided on a voluntary basis. Revisions to the data provided for the year 2015 are also welcomed.

Cross table consistency

60. 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. Compilers are kindly asked to look into this consistency before sending in the results.

61. First of all, consistency checks concern 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 Table 2900.

62. 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. 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. The same goes for the flow and stock measures of the entitlements (F.63 and AF.63 respectively) which, for

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8 See Table 8.4 in the SNA 2008.

9 For some European countries, this will actually not be the case as the 2008 SNA 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 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. 2008 SNA mentions it in Chapter 17 (see Table 17.5), but the description of D8 does not make any reference to it.

10 Actually, D8 is not available for a number of countries. It is expected that the compilation of the pension table will resolve the issue in the medium term.
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.

63. 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 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{11}. 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{12}.

64. Annex A summarizes the consistency rules according to the above definitions.

**Metadata**

65. As the table on social insurance pension schemes concerns a new table that will collect detailed information on various types of pension schemes for the first time, the Secretariat would like to collect additional metadata 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. Please provide metadata which is publishable on the OECD data dissemination system. This will provide a better overview of the content of the tables obtained from countries and on the cross-country comparability of the results. This also provides very relevant information for users in order to correctly interpret the results.

66. The metadata file includes separate sheets for each column in the table. Each sheet asks for a brief description of the (main) schemes covered in that specific column, and if possible some information on the relative importance of these schemes (as percentage of the pension liabilities in the column). Furthermore, all sheets provide the opportunity to report any specific information that may be helpful in properly understanding the results for the specific column. They also ask for the main data source(s) for the information included in the column and/or whether it includes own calculations.

67. The 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 (whether 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).

68. 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

\textsuperscript{11} 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.

\textsuperscript{12} 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).
type of schemes covered under this column and if possible on some of the assumptions underlying the results. However, it is understood that the possibility to provide this type of information will largely depend on the availability of underlying information.

69. Countries are requested to provide the metadata file together with the transmission of the data for the table on social insurance pension schemes. If countries provide results for multiple years, they are encouraged to provide separate metadata files in case of important differences between the years.
REFERENCES


Wistrom, Bettina, I. Ynesta and J. Zwijnenburg (2017), “Proposal for the collection of supplementary data on social insurance pensions from non-European OECD members and of data on household retirement resources”, paper presented at the 2017 OECD WPFS and WPNA.

## Annex A - Cross table consistency rules

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<tr>
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<th>Check Description</th>
<th>Table 800 (14a)</th>
<th>Table 610 (Transactions-consolidated)</th>
<th>Table 710 (Stocks-consolidated)</th>
<th>Identity</th>
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<tr>
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<td>F63, Liabilities&lt;br&gt; (S11+S12+S1M)</td>
<td>T2900=T610</td>
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<td></td>
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<td>F63, Liabilities (S13)</td>
<td>T2900=T610</td>
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<td></td>
</tr>
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<td>D8 (S1)</td>
<td>T2900=T800</td>
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<td>D8P, D61R, D611R, D612R, D613R, D614R, D62P&lt;br&gt; (S11+S12+S1M)</td>
<td>D61 and D62&lt;br&gt; T2900≤T800&lt;br&gt; D8&lt;br&gt; T2900=T800</td>
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