Guidelines for the OECD table on

SOCIAL INSURANCE PENSION SCHEMES

(Table 2900)

2023

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Introduction

OECD Table 2900, the national accounts supplementary table on accrued-to-date pension entitlements in social insurance, is based on Table 17.10 of the 2008 System of National Accounts (SNA) and Table 17.15 of the European System of Accounts 2010 (ESA 2010). Its purpose is to provide a full picture of the liabilities of social insurance pension schemes in a country, covering all social insurance pensions whether or not they are included in the central framework of the national accounts ("core accounts").

In December 2023, Eurostat will conduct its third round of data collection for Table 2900 focusing on the year 2021. In the context of the OECD's 2023-2024 data collection round for OECD countries that do not submit data to Eurostat (non-EU/EFTA countries), we are also collecting data for the year 2021, including corresponding publishable metadata.

Scope of the table

Table 2900 is known as the national accounts supplementary table on accrued-to-date pension entitlements in social insurance. Two concepts are important here: accrued-to-date and social insurance:

- **Accrued-to-date** estimates for pension liabilities are consistent with other measures of financial liabilities within the national accounts, which provide estimates as at the date of the accounts. It should be noted that for some pension schemes calculating such an estimate can be complicated because fiscal sustainability analyses carried out by governments to estimate projected future pension benefit payments include future accruals of pension entitlements, whereas the accrued-to-date approach takes into account *only* the pension benefits that will be paid in future to people who are already retired and people of working age with respect to their entitlements from service to date; it excludes future accruals of entitlements[1].
- **Social insurance** indicates a collective effort by society to provide for households in their retirement. Social insurance pension schemes are schemes in which participants are obliged, or encouraged, by a third party to take out insurance against certain social risks or circumstances that may adversely affect their welfare or that of their dependents. Other members of society – such as government or the employer – support them in doing so. This is different from private insurance where only the individual wishing to take out insurance is involved.

To be a pension scheme in social insurance (a) the scheme must provide social benefits (as defined in the SNA) to its members and (b) one or more of the following criteria must be satisfied:

- participation in the scheme is obligatory; and/or
- the scheme is a collective one set up for the benefit of a group of workers; and/or
- the employer makes a contribution (actual or imputed) on behalf of the employee.

The full wording of the requirement can be found in paragraph 8.65 of the 2008 SNA.

[1] Fiscal sustainability analysis is based on an "open system" approach, while accrued-to-date estimates are "closed system" based.

What is included

Table 2900 covers social insurance pension schemes, and all social security and employment-related pension schemes should be included in Table 2900. There are two types of social insurance pension scheme:

- **Employment-related pension schemes** (often referred to as occupational pensions) are schemes organised by employers as collective schemes to provide pensions for employees and/or schemes that receive pension contributions from the employer for the employee.
- **Social security pension schemes** are pension schemes that cover the entire community, or large sections of the community, and are imposed, controlled, and financed by Government.

It should be noted that employment-related pension schemes are often administered separately (not by the employer). For example, they may be set up as autonomous pension schemes/funds **or** they may be provided by a life insurer or other financial institution in cooperation with the employer. See Annex A.

Both types of pensions scheme should be included in Table 2900: employment-related pension schemes in Columns A to G, and social security pension schemes in Column H.

What is excluded

Two types of pensions are not part of social insurance and should **not** be included in Table 2900:

- **Individual pensions**, which are pensions provided by insurers and other financial corporations for the self-employed and others. In the national accounts, this type of pension is considered private insurance rather than social insurance – individuals take out such pensions on their own initiative, without an employer or government intervening to organize them or contribute to them.
- **Social assistance pensions**, which are benefits provided by governments to older people based on their need for support but not resulting from participation in a collective pension scheme or having made pension contributions during their working lives. They are normally financed via taxation. These social assistance benefits may use the word “pension” in the name of the benefit, but they are not social insurance pensions.

Design of the table

Table 2900 comprises a full set of accounts for pension schemes starting with an opening balance sheet entry of pension scheme/fund liabilities (the assets or entitlements of households) at the start of the year in Row 1 and ending with a closing balance sheet entry of the same at the end of the year in Row 10. In between is a full sequence of transactions and other economic flows designed to explain the change in the liabilities during the year (Rows 2 to 9).

The most important design feature is the split by type of pension: **defined contribution (DC)** and **defined benefit (DB)**. This split is crucial from a policy perspective, as the risks of each type fall on different parts of the economy (households and employers/social security funds respectively). It is also crucial in terms of how Table 2900 is compiled, as the logic of producing the table is completely different for each type.

First, some definitions:

- A **DC pension scheme** is one in which pension contributions are invested in assets and the pension benefits are determined by the contributions paid and the investment return (less charges), i.e., benefits are equal to the value of the assets that are purchased with the pension contributions (the “pot of money”). The risks of such pensions lie with members (i.e. households).

- A **DB pension scheme** is one in which the rules of the scheme specify the rate of benefits to be paid, often in relation to the employee's salary when they are working. It involves a "promise to pay" by the scheme sponsor which must be honoured whether or not funds are available – involving risks for the sponsor (i.e., in the case of employment-related schemes, the employer).
- **Hybrid pension schemes**, which offer a choice or a mixture of DB and DC, are (by convention) reported with DB schemes in the national accounts.

For DC schemes, the value of pension liabilities is equal to the market value of the assets held by the pension fund on behalf of future beneficiaries (i.e., the market value of the pension fund). Such schemes are always fully funded by definition.

For DB schemes, the value of the pension liabilities is the present value of future benefits based on actuarial calculations. This is a requirement of the 2008 SNA, and it is a challenge for compilers because it involves modelling by scheme actuaries using assumptions about the future, usually requiring expertise from outside of national accounts departments.

The actuarial calculations use (i) financial assumptions (discount rate, wage growth and inflation) and (ii) demographic assumptions (especially life expectancy) – see Employment-related DB pension schemes and Annex B. Changes in liabilities due to changes in financial and demographic assumptions must be recorded in Row 8 (Revaluations) and Row 9 (Other changes in volume) respectively.

Box 1. Pension annuities

DB pensions include annuities paid to retirees that originated from pensions. If the annuity came from converting a social insurance (occupational) pension, the national accounting convention is to include it as a DB pension in social insurance (mainly recorded in Column B of Table 2900). If the annuity came from the conversion of a private insurance (individual) pension, the national accounting convention is to include it as a standard (non-pension) annuity, which would be considered a life insurance and annuity entitlement rather than a pension entitlement and is therefore outside the scope of Table 2900.

For further information, see Pensions provided by insurance corporations

The main part of the table

Table 1 shows an overview of the layout of the main part of Table 2900 – columns A to I. In addition to the distinction between DB (including hybrid) and DC schemes, there are two other key criteria:

1. The type of recording – whether or not the scheme is included **in full** in the core accounts.
2. Whether the "pension manager" is in the non-general government or general government sector.

Recording

The description of the **type of recording** heading in Table 2900 as "included (or not) in the core national accounts/SNA accounts" often gives rise to confusion because **all** social insurance pension schemes do in fact record some lines (actual contributions and benefits) in the core accounts. The intention of the "not in the core accounts" columns is to allow some DB schemes for general government employees and social security pension schemes not to record their pension liabilities and the flows that explain the changes in liabilities during the year (except actual contributions received and benefits paid) in the core accounts, but only in Table 2900. Such schemes are recorded in full in Columns G and H of Table 2900 respectively.

Table 1. Overview of Table 2900 layout

<table>
<tr><td>Recording</td><td colspan="6">Core National Accounts</td><td colspan="2">Not in the core National Accounts</td><td rowspan="2">Total Pension Schemes</td></tr>
<tr><td>Pension manager</td><td colspan="3">Non-general government</td><td colspan="5">General government</td></tr>
<tr><td rowspan="2"></td><td rowspan="2">DC</td><td rowspan="2">DB and hybrid schemes</td><td rowspan="2">Total</td><td rowspan="2">DC</td><td colspan="3">DB schemes for general government employees</td><td rowspan="2">Social security pension schemes</td><td rowspan="2"></td></tr>
<tr><td>Classified in financial corporations</td><td>Classified in general government</td><td>Classified in general government</td></tr>
<tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td></tr>
</table>

Although in the 2008 SNA there is no rule to this effect, in practice many countries choose to record unfunded DB pension schemes (see Box 2) in Column G. Alternatively they may be recorded in Column F and included in the core accounts, and this is encouraged by the OECD. However, if countries decide to record unfunded DB pension schemes in Column F and the core accounts, the estimates of their liabilities that are included in the core accounts should be based on *actuarial calculations* (as for funded DB schemes) and should be accompanied by estimates of the transactions and other economic flows that explain any changes in the liabilities during the year (matching their recording in Column F). As this is challenging to do, flexibility is provided for compilers to record these schemes in Column G.

Box 2. Funded versus unfunded pension schemes

Funded pension schemes are those where the benefits are met from a fund built up in advance from contributions and the return on investments. In the case of funded DB pensions, the fund (assets) may be worth more or less than the pension liabilities (i.e., there may be a pension funding surplus or deficit). For DC pensions, there is no surplus or deficit because liabilities are equal to assets.

By contrast, with **unfunded** pension schemes, also known as Pay-As-You-Go pensions, the DB liabilities are not underpinned by a fund (there are no assets). Nevertheless, the pension manager has a pension liability that can be measured by scheme actuaries as at the date of the accounts.

Pension manager and pension administrator

The **pension manager** refers to the sponsor of the pension scheme, and in particular whether this organisation belongs to the general government sector or to a non-general government sector[2]. The pension manager is the organisation that is ultimately responsible for paying the pension liabilities and for any pension scheme deficit[3]. For employment-related pension schemes the pension manager is normally the employer, although in the case of multi-employer pension schemes the pension manager may be the scheme itself. For social security pension schemes, the pension manager is general government.

[2] For employment-related pension schemes, the distinction is strictly speaking between general government-managed schemes and non-general government-managed schemes. However, non-technical audiences may refer to schemes for public sector employees and private sector employees (respectively).

[3] The label “pension manager” is used in Table 2900 for both DC and DB schemes, but it only really has meaning for DB schemes because DC schemes are fully funded and have no deficit.

By contrast the **pension administrator** is the organisation that runs a pension scheme/fund, taking the day-to-day management decisions, but not taking responsibility for any deficit. The “classified in” wording in the headings of Table 2900 in the case of DB schemes for general government employees (Columns E, F and G) is a reference to the pension administrator: schemes of this kind for which the pension administrator is in the financial corporations sector (S12) are classified in Column E, while schemes where the pension administrator is classified in general government sector (S13) are in Column F or G.

A-I column by column

In this section we look at the design of the table column by column:

Column A covers DC schemes where the pension manager is an employer in one of the non-general government sectors. If the scheme is autonomous, it is administered by sub-sector S129 pension funds (within S12); while if it is non-autonomous the “scheme” (or the pensions) will be consolidated with another part of S12, most commonly S128 insurance corporations, or (rarely) with the employer[4]. In the core accounts, most Column A pension schemes are classified in financial corporations as most are administered by S128 or S129.

Column B covers DB (and hybrid) schemes where the pension manager is in one of the non-general government sectors. If the scheme is autonomous, it is administered by sub-sector S129 pension funds; while if it is non-autonomous it will be consolidated with the employer or with S128 insurance corporations. In the core accounts, most Column B pension schemes are classified in financial corporations as most are administered by S129.

Column C is the total of non-general government-managed schemes (= A + B).

Column D refers to DC schemes, usually for general government employees (and former employees), that are managed by general government. Such schemes may be administered by the government or by an autonomous pension fund.

Column E refers to DB pension schemes for general government employees (and former employees) for which the pension manager is in general government, but the pension administrator is in financial corporations (usually an autonomous pension fund in S129), and the liabilities are recorded there.

Column F refers to DB pension schemes for general government employees (and former employees) that are managed and administered by a general government unit. Unlike pension schemes recorded in Column E, the pension liabilities reported in Column F are classified in the general government sector.

Column G is the same as Column F except that pension schemes recorded in Column G are not recorded in the core accounts and is therefore frequently used by countries to record unfunded schemes.

Column H covers social security pension schemes, which do not appear in the core accounts.

Column I is the total for all of the country’s social insurance pension schemes (= Columns C + D + E + F + G + H) and shows the start-of-year and end-of-year liabilities and in-year flows of all resident schemes. It also reflects all social insurance pension entitlements held by resident and non-resident households with regard to the country’s social insurance pension schemes.

[4] See Annex A for further details on autonomous vs. non-autonomous schemes.

The extra columns and row

The extra columns

In addition to the main table, Table 2900 includes columns to reflect the counterparts of these liabilities and to derive total pension entitlements of resident households. These columns are:

***Column J**:* This column records how much of the total liabilities of the country's pension schemes (in Column I) relates to resident households.

***Column K**:* This column records how much of the total liabilities of the country's pension schemes (in Column I) relates to non-resident households, i.e. it shows the pension entitlements accrued by non-residents when they were living in the country, and by cross-border workers.

***Column L**:* This column records the pension entitlements acquired by resident households with non-resident pension schemes (in the rest of the world), i.e. pension entitlements accrued by residents when they were living abroad, and by cross-border workers.

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

The extra row

In addition to the main table which starts and ends with the pension liabilities rows, Table 2900 includes a row designed to show the assets of the pension schemes reported in each column. This provides users of the table with information on the extent to which the liabilities are funded.

Such information is already recorded in the central framework of the national accounts. In fact, the balance sheets in the core accounts record (for all pension administrators):

- AF63 pension liabilities;
- real (non-pension) assets – financial and non-financial investments; and
- a notional asset designed to account for any deficit known as AF64 "claims of pension funds on pension managers".

Compiling the table

Employment-related DC pension schemes (Columns A and D)

Table 2 provides guidance on how to compile Table 2900 for DC pensions.

The orange rows are **actual data** from pension schemes:

- Rows 1 and 10 are the market value of pension funds (i.e. equal to the fund assets).
- Rows 2.1 and 2.3 are employers' and the employees' pension contributions received during the year, Row 2.4 "household social contribution supplements" is investment income (interest and dividends on the invested funds plus any income earned by renting land or buildings owned by the fund), Row 2.5 is the service charge paid by beneficiaries (which is also the output of the scheme).
- Row 4 is pension benefits paid during the year.
- Row 6 records any transfers from/to another column of Table 2900 or from/to a pension scheme that is outside of the scope of Table 2900 (e.g. to overseas pension schemes). See also Transfers.

The information required to populate these rows can be found in the quarterly/annual accounts of the pension scheme/fund. National accounts compilers can obtain it either (a) directly from the scheme or the regulator (if there is a small number of schemes) or (b) via a survey (if there is a large number of schemes).

The green rows are calculated from the other rows. Row 2 is the sum of contributions *less* the service charge. Row 5 = Row 2 minus Row 4 (payment of benefits) and is known as the *D.8 adjustment for the change in pension entitlements* in the core accounts.

Row 8 (revaluations) is the **residual row**, which shows the increase/decrease in the underlying value of the assets/liabilities of the scheme during the year (realized and unrealised gains and losses). It is calculated as "liabilities at end of year *minus* liabilities at start of year *minus* all other flows during the year".

Row 2.2, Row 7 and Row 9 are not applicable for DC schemes – they are designed to reflect items in the accounts of DB schemes.

Table 2. Compiling the rows for DC columns

Row	Opening balance sheet
1	Pension liabilities of schemes (entitlements of households) - opening balance
	Transactions
2	Social contributions (net of service charge) = Row 2.1 + 2.2 + 2.3 + 2.4 - Row 2.5
2.1	Employer actual social contributions
2.2	Employer imputed social contributions - N/A for DC schemes
2.3	Household actual social contributions
2.4	Household social contribution supplements
2.5	*Less:* Pension scheme service charges
4	Payment of pension benefits
5	Changes in pension entitlements due to social contributions and pension benefits = Row 2 - Row 4
6	Transfers of pension entitlements between schemes
7	Change in entitlements due to negotiated changes in scheme structure - N/A for DC schemes
	Other economic flows
8	Changes in entitlements due to revaluations = Row 10 - Row 1 - Row 5 - Row 6
9	Changes in entitlements due to other changes in volume - N/A for DC schemes
10	Pension liabilities of schemes (entitlements of households) - closing balance

Note: Orange = actual data required; green = calculation based on other rows.

Employment-related DB pension schemes (Columns B, E, F and G)

Table 3 provides guidance on how to compile Table 2900 for DB pensions (including any hybrid schemes).

For DB schemes, the approach to compilation starts with the **actuarial calculations**. For liabilities, the results of the actuarial calculations are shown in Rows 1 and 10 and are the present value of scheme liabilities (or household entitlements) accrued up to the start and end of each year, which are unlikely to match any assets that the scheme may have.

There are another three "actuarial rows" that must be estimated:

- Row 7 contains any changes in "past service cost" (i.e. changes to benefits already accrued by members in previous years) due to changes in the scheme structure that are negotiated between the pension manager and the scheme members; for schemes where government is the pension manager (including social security schemes), these may be government reforms that are legislated by parliament during the year[5].

- Row 8 shows any changes in entitlements due to changes in financial assumptions including discount rates, wage growth and inflation.
- Row 9 shows any changes due to other assumptions, mainly changes in demographic assumptions such as life expectancy. It also includes write-downs including changes in pension entitlements that are imposed by the pension manager without negotiation.

The information required to populate these rows may be found in the accounts of the pension scheme[6], or it may be necessary to request it from the scheme actuary or the regulator or to model it (usually with the assistance of experts from outside national accounts). It is not normally feasible to collect such information via a survey. It should be noted that it is essential to estimate these rows properly because not doing so will lead to errors in the calculation of the residual row, which is a key indicator (see below)[7].

Table 3. Compiling the rows for DB columns

Row	Opening balance sheet
1	Pension liabilities of schemes (entitlements of households) - opening balance
	Transactions
2	Social contributions (net of service charge) = Row 2.1 + 2.2 + 2.3 + 2.4 - Row 2.5
2.1	Employer actual social contributions
2.2	Employer imputed social contributions = Row 10-Row 1-(Rows 2.1+2.3+2.4-2.5-4+6+7+8+9)
2.3	Household actual social contributions
2.4	Household social contribution supplements (= Row 1 * discount rate)
2.5	*Less:* Pension scheme service charges
4	Payment of pension benefits
5	Changes in pension entitlements due to social contributions and pension benefits = Row 2 - Row 4
6	Transfers of pension entitlements between schemes
7	Change in entitlements due to negotiated changes in scheme structure
	Other economic flows
8	Changes in entitlements due to revaluations (financial assumptions)
9	Changes in entitlements due to other changes in volume (mainly demographic assumptions)
10	Pension liabilities of schemes (entitlements of households) - closing balance

Note: Blue = estimates based on actuarial calculations; orange = actual data required; green = calculation based on other rows.

[5] Examples are a change of the retirement age, the indexation rule or the benefit formula of the scheme. All negotiated reforms are shown in Row 7, as well as changes to pension entitlements that are agreed in parliament, which are treated as if the changes have been negotiated. Legislated changes should only be shown in the year in which the legislation is approved by parliament, **not** when the change is announced or going through the process of approval.

[6] However, this information may not be available annually (for example it may only be compiled every three years). If this is the case, it may be necessary to "roll forward" (or backward) estimates from years when the data is available.

[7] It is the total of Row 8+9 that is most important to get right. If it is not possible for compilers to distinguish between financial and demographic assumption changes in the source data, the split between Row 8 and 9 may be estimated.

The orange rows are **actual data** from pension schemes:

- Rows 2.1 and 2.3 are employers' and the employees' pension contributions received during the year, Row 2.5 is the service charge paid by beneficiaries (which is also the output of the scheme).
- Row 4 is pension benefits paid during the year.
- Row 6 records any transfers from/to another column of Table 2900 or from/to a pension scheme that is outside of the scope of Table 2900 (e.g. to overseas pension schemes). See also Transfers.

The information required to populate these rows can be found in the quarterly/annual accounts of the pension scheme/fund. National accounts compilers can obtain it either (a) directly from the scheme or regulator (if there is a small number of schemes) or (b) via a survey (if there is a large number of schemes).

The green rows are calculated from the other rows. As for DC schemes, Row 2 is the sum of contributions *less* the service charge. Row 5 = Row 2 minus Row 4 (payment of benefits) and is known as the *D.8 adjustment for the change in pension entitlements* in the core accounts. However, by contrast with DC schemes, for DB schemes the other two green rows are very different:

- Row 2.4 household social contribution supplements is the "unwinding of the discount rate" or re-valuation of start-of-year liabilities[8] and is calculated by multiplying the liabilities at the start of the year by the nominal discount rate (for instance if the nominal discount rate is 5%, multiplying the liabilities by 0.05 gives the figure for Row 2.4); it is important to note that this should **not** be derived from actual investment income received by the scheme, although conceptually this investment income is considered to cover (part of) the increase due to the unwinding of the discount rate for DB schemes.
- Row 2.2 employer imputed social contributions is the **residual row**, calculated as "liabilities at end of year *minus* liabilities at start of year *minus* all other flows during the year".

Row 2.2 is hard to get right because to do so, compilers need to make sure that there are reasonable estimates in all other rows. However, it is very important to get it right for a number of reasons:

1. It may be policy sensitive for government-managed schemes. The interpretation of this row from a policy perspective is that it is what would need to be contributed by the employer to balance the accounts, in other words how much is needed to offset the increase in the deficit during the year.
2. From the point of view of scheme actuaries, Row 2.2 is thought of as 'experience gains and losses' (differences in the outcome because some actual changes turn out to be different from those assumed in the actuary's model). It also reflects any differences between increases in liabilities during the year as a result of employee service ("current service cost") and actual contributions received during the year. If the values in Row 2.2 are high over several years, the actuary's assumptions may need to be reviewed and contribution rates may need to be adjusted, which would require negotiations with employers and employees.
3. In the core accounts, Row 2.2 for government-managed schemes as included in Columns E and F will impact on government sector accounts. Also, the part of compensation of employees for the

[8] The unwinding of the discount rate refers to the fact that the present value of the pension entitlements existing at the beginning of the year and still due at the end of the year has increased because the future is one year nearer. This can also be thought of as the increase in the value of past service entitlements.

whole economy that reflects employer imputed social contributions[9] should be consistent with the Row 2.2 total for Columns B, E and F.

4. Row 2.2 is often quite volatile, causing issues for compilers in the core accounts. Smoothing may be advisable, but this depends on having reliable estimates as a starting point.

Social security pension schemes (Column H)

Social security schemes are considered DB in nature and the approach to compilation is almost the same as that for employment-related DB pension schemes. However, as Column H schemes do not have an employer as sponsor, the following differences apply:

- Row 2.1 should be interpreted as actual contributions paid by government rather than by the employer.
- Row 2.2 is not applicable and instead the **residual row** is Row 3 "other (actuarial) accumulation of pension entitlements in social security funds".
- Row 5 is calculated as Row 2 + Row 3 – Row 4 (but Row 5 is not part of D.8 in the core accounts because social security schemes are not included in the core accounts)

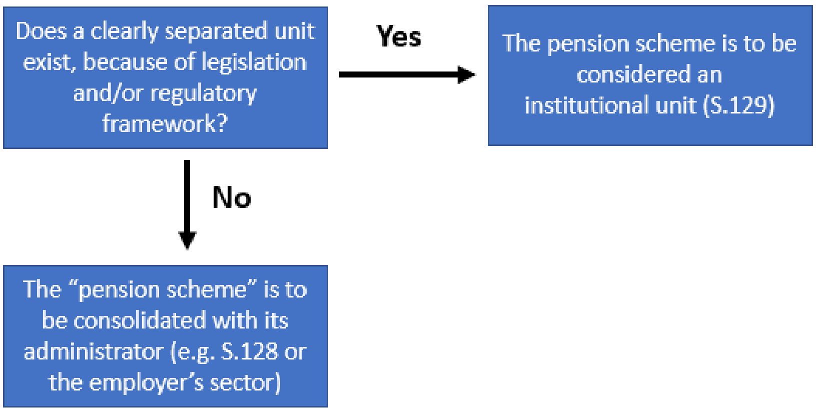
[9] Compensation of employees consists of wages and salaries in cash or in kind (D.11) and employer's actual and imputed social contributions (D.121 and D.122).

Annex A: Frequently asked questions (FAQs)

Is the pension scheme "autonomous"?

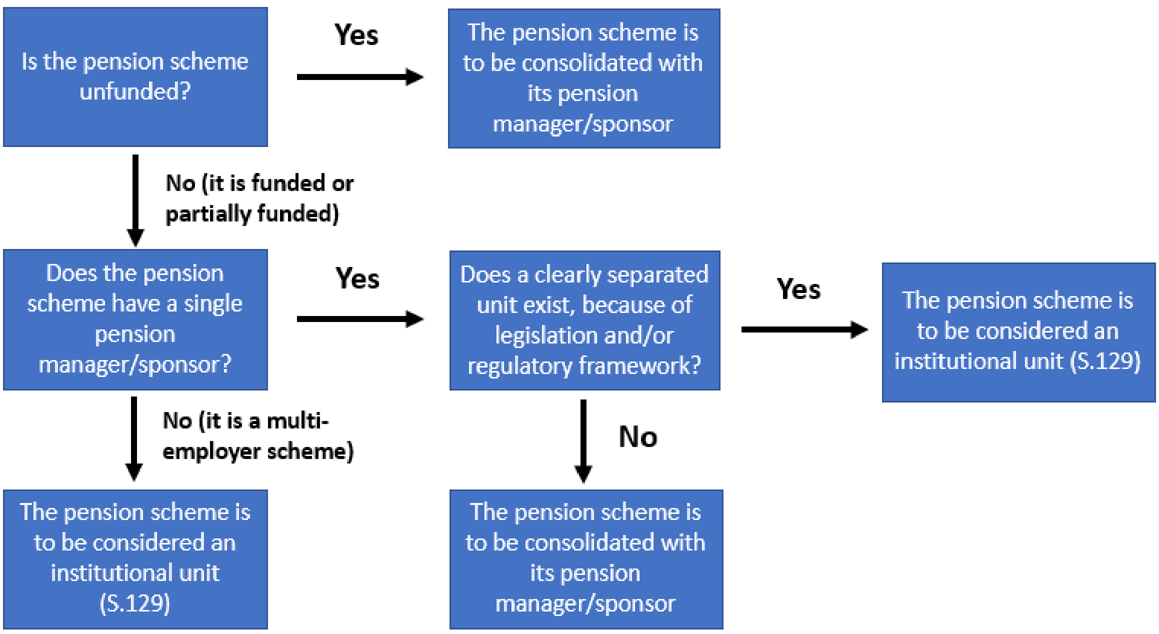
As part of work on updating the 2008 SNA, decision trees have been developed for helping compilers to decide when a social insurance pension scheme is a separate institutional unit (i.e. an autonomous pension fund that should be classified in S129) versus when it should be consolidated with an employer, pension manager, sponsor or administrator. These decision trees are shown in Figures 1 and 2.

Figure A.1: Is the pension scheme autonomous? Decision tree for DC schemes



Source: Adapted from SNA update Issues Note A.6: Treatment of trusts and similar types of funds as separate institutional units.

Figure A.2: Is the pension scheme autonomous? Decision tree for DB schemes



Source: Adapted from SNA update Issues Note A.6: Treatment of trusts and similar types of funds as separate institutional units.

Pensions provided by insurance corporations

The most common form of non-autonomous pension schemes is that provided by life insurers (part of S128 insurance corporations). Table A.1 shows which insurance-provided pensions to include in Table 2900 because they are social insurance pensions (employment-related), meeting the criteria discussed in Scope of the table. The table compares these with insurance-provided pensions which are out of scope because they do not meet these criteria. It should be noted that pensions provided by life insurers are often referred to as "personal pensions" reflecting the fact that they are based on individual contracts; but this is not relevant for differentiating between social insurance and private insurance pensions (it is not part of the SNA criteria for establishing if a pension scheme is in social insurance).

Table A.1. Which pensions provided by ICs should be included in Table 2900?

Social insurance pensions – in Table 2900	Private insurance pensions – out of scope
• **Employment-related** pensions provided by life insurers in the accumulation phase (mainly Column A)	• **Non-employment-related** pensions provided by life insurers
• Individual and bulk purchase pension annuities provided by life insurers that *originated as* **social insurance pensions** in the accumulation phase (Column B)	• Individual pension annuities provided by life insurers that *originated as* **private insurance pensions** in the accumulation phase

Table A.1 also shows, for those pensions provided by life insurers that are to be included in Table 2900, which column is appropriate for recording them: A or B. In most cases, while the pensions are building up (the accumulation phase), they are DC pensions such as "group personal pensions" where each employee has an individual entitlement to part of a fund that has been set up with the insurance corporation by the employer and that receives employer contributions. These should be recorded in Column A[10]. On the other hand, individual pension annuities purchased with Column A pensions (and bulk pension annuities resulting from transfers of liabilities from an autonomous pension scheme to a life insurer) are treated as DB and should be recorded in Column B.

It should be noted that in life insurance data it is usually not possible to identify whether an individual annuity came from a social insurance pension scheme in the accumulation phase. Modelling may be required e.g. splitting the total for individual annuities based on reasonable assumptions.

Life insurers may also act as managers for S129 pension funds. This is not the same as being a "pension manager" or "pension administrator" in Table 2900. Care is needed to avoid double counting S128 pensions and S129 pensions in such cases. Compilers should use the decision trees above to see if there is a separate unit; if so, it should be recorded as an autonomous (S129) pension scheme.

[10] Some employers, particularly those that set up such arrangements with life insurers for their employees many years ago, established DB schemes. If these are still in the accumulation phase and are separately identifiable, they should be recorded in Column B along with pension annuities.

The pension scheme service charges (output)

Row 2.5 of Table 2900 shows the service charges of the pension scheme, which is important to get right for those schemes that are recorded in the central framework (core accounts) because it is part of output.

For autonomous pension schemes/funds (S129), the recommended method for calculating this item is sum-of-costs. The sum-of-costs method can also be used for most non-autonomous pension schemes that are consolidated with the pension manager/sponsor – whether the employer or, for social security pension schemes, the social security funds sub-sector of general government.

For S129 pension schemes/funds, costs fall into categories such as (i) administration costs (mainly the cost of employing people to handle contributions and benefit payments, relationships with the employer and scheme members, governance etc.), (ii) investment management costs (which include indirect as well as invoiced costs for managing the invested funds and properties), (iii) professional service fees and charges (such as paying actuaries, legal advisers, custodians, etc) and (iv) regulator levies and fees.

It is worth noting that:

- Some of pension schemes' service charges reflect the cost of services provided by the scheme's employees, while others may be in the form of payments to third parties. From the point of view of Table 2900, it might be argued that all costs should be included in the service charge, as they are ultimately paid by the beneficiaries of the pensions (in the household sector). However, in the core accounts this would produce double counting if these costs were recorded as output of S129 and also of other sectors/sub-sectors and if there was no intermediate consumption recorded for S129.
- Even if compilers wish to do a full recording of output and intermediate consumption of S129, it may be difficult to obtain full cost information from the pension schemes and to ascertain how much of the total is paid to external service providers ("third parties").
- We recommend that Row 2.5 of Table 2900 should be consistent with the approach taken in the core accounts (for those columns of Table 2900 that are included in the core accounts): if the core accounts include a partial recording of S129 output, Row 2.5 should do the same. If the core accounts include a full recording of S129 output, this approach should be mirrored in Row 2.5.

There is one category of pension in the national accounts for which the sum-of-costs method is not feasible: non-autonomous pensions provided by life insurers. These pensions are consolidated with their administrator and there is no separate cost accounting for them. Therefore the "pension scheme service charge" in this case must be calculated in the same way as for life insurance products.

Transfers

Transfers of pension entitlements between schemes (Row 6) are recorded **net**, i.e. transfers into schemes *less* transfers out. They may happen in a number of cases. In the past, the values recorded were small, mainly reflecting when employees changed jobs and moved their pension from one type of scheme to another. Nowadays, the figures may be large because there may also be bulk transfers associated with restructuring of pension schemes or pension "buyouts" (when a life insurer takes over the liabilities of a DB pension scheme) and movements across borders, e.g. when people move their pension entitlement to an overseas pension scheme (out of scope of Table 2900) with a view to retiring abroad. In addition, if people with DC pensions buy a pension annuity from a life insurer there is a transfer from Column A or D to Column B. It should be noted that because of overseas transfers (and possibly other out of scope transfers), the sum of transfers across columns does not necessarily add to zero.

It is important to compile Row 6 correctly, in particular for DB pension schemes, because not doing so means that Row 2.2 (employer imputed pension contributions) will be over- or under-estimated.

Annex B: Key assumptions for DB pensions' actuarial calculations

This annex looks at the key demographic and financial assumptions required for the actuarial calculations for DB schemes, the results of which are recorded in Rows 1 and 10 (liabilities/entitlements) and Rows 8 and 9 (changes in actuarial assumptions: financial and demographic assumptions respectively). These assumptions may also feed into any figures that are recorded in Row 7 (changes due to negotiated changes in scheme structure).

Actuarial methods involve modelling based on assumptions. For pensions, they involve projections of streams of benefit payments over a time horizon of up to 100 years discounted to give a "present value" using a chosen discount rate. The present value (PV) at time (t) of a payment (P) payable one year in future (at t+1) is calculated as:

$$PV_t = \frac{p_{t+1}}{(1+r)}$$

Where (r) is the discount rate chosen for the calculation.

Demographic and wage growth assumptions are used by scheme actuaries to model future flows of benefit payments (numerator). These are then discounted by a discount rate (denominator) to give the present value of scheme liabilities as at the date of the accounts. A small change in assumptions normally has a big impact on liabilities. For example, as a "rule of thumb", a 1% reduction in the discount rate leads to an increase of around 20% in liabilities.

It is important to note that for Table 2900, Row 8 financial assumptions changes (including the discount rate used) are normally in nominal terms (including the effect of inflation). Alternatively, it is possible to do the calculations in the model in real terms and then add the change in inflation assumption to Row 8. In theory, Row 8 financial assumptions changes can be separated into three main components: changes in assumed wage developments, changes in the assumed discount rate and changes inflation assumptions.

Demographic assumptions

Any changes in demographic assumptions are recorded in Row 9 of Table 2900. The key demographic assumption is life expectancy of scheme members and dependents, which is used to calculate the expected number of years the pension has to be paid. As mortality rates differ between men and women, a gender-specific differentiation of mortality data is necessary. Life expectancies are calculated on the basis of mortality tables established for the modelling of pension schemes and life insurance policies.

Future fertility rates may play a role in estimating entitlements for an orphan's pension because when a scheme member dies, their dependent children may receive an orphan's pension. A higher fertility rate will lead to a higher number of children receiving an orphan's pension.

Assumptions on the (un)employment rate, future prevalence rates for disability, and migration patterns (between countries) can also impact the calculation of pension entitlements.

Countries are requested to provide information on the demographic assumptions used in the calculations (and any changes) in the metadata sheet.

Wage growth

Any changes in wage growth assumptions are recorded in Row 8 of Table 2900. For members of DB schemes who are still working (have not yet retired), actuaries apply a formula to the salary (e.g. final salary, an average over a period of years, or lifetime earnings) to determine the level of each member's future pension. The accounting profession considers two approaches:

- The Accumulated Benefit Obligation (ABO) approach, which assumes that there is no future wage growth. In other words, for scheme members who are still working, the modelling uses information about current salaries to model the future pension benefits. This method is not recommended, as it does not take into account the path of future career development and wage increases.
- The Projected Benefit Obligation (PBO) approach, which makes an explicit non-zero assumption for future wage growth, taking into account expected promotions. This method is recommended, as it provides a more prudent measure of what the future pension entitlement of members who are still working is likely to be. However, this may not be possible for all schemes in all of the countries.

Compilers are requested to provide information in the metadata sheet on the approach(es) applied for each DB column in the table (ABO or PBO).

Actuaries also use general wage growth/earnings increase assumptions in their models (nominal or real). For example, they may expect that over the next 100 years, wages will rise on average by 2% per year in real terms and 4% per year in nominal terms (including the effect of inflation). Compilers are requested to provide information in the metadata sheet on the general wage growth assumption for each DB column in the table.

Discount rate

For DB schemes a suitable discount rate has to be chosen since pension entitlements are calculated in present value terms. Any changes in discount rate assumptions are recorded in Row 8 of Table 2900.

Eurostat exercise applies a stable discount rate for general government-managed schemes in Table 2900 (currently 2% real and 4% nominal). This stable discount rate is used by most EU countries. For non-general government-managed schemes (Column B), Eurostat recommends a discount rate based on the yields of long-term (10+ years) government bonds[11].

In non-European OECD countries economic differences across countries may be more pronounced, particularly with respect to inflation which affects nominal discount rates. For that reason, it is recommended that non-EU OECD countries choose a discount rate based on the yields on long-term government bonds, which may be smoothed by taking averages of several years. This is expected to provide the best comparable results within and across countries.

This decision of what discount rate to use for Table 2900 should be made by an official process in each country. It should not be left up to individual scheme actuaries because this will produce a variety of different discount rates. If the source data is produced using discount rates that differ between or within columns of Table 2900, compilers of the table should convert the results onto the agreed (single) discount rate basis; or at least onto the agreed (single) discount rate basis for all government-managed schemes.

Questions on the discount rate are included in the metadata sheet accompanying Table 2900. Compilers are requested to provide information in the metadata sheet on the discount rates used for each DB column of Table 2900, noting whether the same discount rate is used for all DB pension schemes in the table or whether there are any differences between and within columns.

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[11] ESA 2010 paragraph 17.167 notes that high quality “AAA” rated corporate bonds can also be used if the market is broad and the bonds are of a similar residual maturity to the pension entitlements (long-term bonds); and that “the average of several years average of several years of the discount rate, linked to the length of the economic cycle, can be applied to smooth the time series of the discount rate”.

Annex C: Instructions for completing the OECD Table 2900 questionnaire

The Excel-based OECD questionnaire for Table 2900 is SDMX-compliant[12] 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 F9.

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.

4. **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

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

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.

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:

- Code list for Confidentiality Status;
- SDMX Cross-domain Code Lists**.**

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

Other technical features

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.

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

The data collection is limited to annual frequency. The target year to be provided in the questionnaire is **2021** but any other supplementary year(s) can be provided on a voluntary basis. Revisions to the data provided for the years 2015 and 2018 are also welcomed.

Cross table consistency

Several items as included in Table 2900 already appear in the central framework (core accounts) 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.

First of all, consistency checks concern D61 (= Row 2 + Row 3 of Table 2900, the increase in pension entitlements due to social contributions) and D62 (= Row 4, the reduction in pension entitlements due to payment of pension benefits). 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[13]. Therefore, there may be slightly higher values for D61 and D62 in the non-financial sector accounts than in Table 2900 (Rows 2, 3, and 4).

The D8 change in pension entitlements as included in Table 2900 Row 5 is defined as the increase in pension entitlements due to social contributions (D61, Row 2) plus other (actuarial) change of pension entitlements in social security schemes (D619, Row 3) less the reduction in pension entitlements due to payment of pension benefits (D62, Row 4); see paragraphs 9.20 to 9.25 of the 2008 SNA. For this reason, for the columns that are also recorded in the core accounts, one would expect Row 5 in Table 2900 to be equal[14] to the corresponding data for D8 provided in Table 800 on non-financial accounts by sector, if the results are based on the same data and assumptions.

The increase in pension entitlements (F63) in the financial accounts (Table 610) should equal the sum of all of the **transactions** rows in Table 2900, namely the change in pension entitlements (D8, Row 5) *plus* any transfer of entitlements from a previous pension manager (D81, Row 6) *plus* any change related to a negotiated change in the scheme structure (D82, Row 7)[15]. Furthermore, the end-of-year measure of the

[13] See Table 8.4 in the 2008 SNA.
[14] 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. The 2008 SNA mentions it in Chapter 17 (see Table 17.5), but the description of D8 does not make any reference to it.
[15] 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.

pension scheme liabilities/household entitlements, as included Row 10 of Table 2900, should equal AF63 in Table 710 representing (consolidated) financial balance sheets.[16]

Table C.1 summarizes the consistency rules according to the above definitions. If any of the equalities described above do not hold in the case of your country, please include explanations of the reasons why.

Table C.1 Cross table consistency rules

Check	Pension table 2900	Table 800 (14a)	Table 610 (Transactions-consolidated)	Table 710 (Stocks - consolidated)	Identity
1	D8+D81+D82 All Central framework (C+D+E+F)		F63, Liabilities (S11+S12+S1M+S13)		T2900=T610
2	D8+D81+D82 private (C+E)		F63, Liabilities (S11+S12+S1M)		T2900=T610
3	D8+D81+D82 government central framework (D+F)		F63, Liabilities (S13)		T2900=T610
4	D8 All Central framework (C+D+E+F)	D8 (S1)			*T2900='T800'*
5	D8, D61, D6111, D6121, D6131, D6141, D62 (i.e.D6211+D6221) private (C+E)	D8P, D61R D611R, D612R, D613R, D614R, D62P (S11+S12+S1M)			D61 and D62 T2900=T800 *D8* *T2900='T800'*
6	D8, government Central framework (D+F)	D8P (S13)			*T2900='T800'*
7	D62 (i.e. D6211+D6221), D61*, D6111, D6121, D6131, D6141 government both central framework and supplementary table (D+F+G+H) ‘* only includes D6111 & D6131 for G and H.	D62P, D61R, D611R, D612R, D613R, D614R (S13)			T2900<T800
8	AF63 (closing stock) Private (C+E)			AF63, Liabilities (S11+S12+S1M)	T2900=T710
9	AF63 (closing stock) government central framework (D+F)			AF63, Liabilities (S13)	T2900=T710

Metadata

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. Please provide metadata which is publishable on the OECD data dissemination system. This will provide a better overview

[16] 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).

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 so that they can interpret the results correctly.

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.

The sheets for DB employment-related schemes and social security schemes contain additional questions. 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), demographic assumptions (especially life expectancy).

For 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 (Column L). For Column L we also ask some questions on type of schemes covered and the assumptions used to produce the results. However, it is understood that data may not be available for this column.

Countries are requested to provide the metadata file together with the transmission of the data for Table 2900. If countries provide results for multiple years and there are important differences in the estimates between years, please explain the changes over time ***either*** all in one place, in the metadata file for the latest year ***and/or*** by providing separate metadata files for each year explaining the estimates for that year.