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Consolidated Quality Report on ESSPROS Pension beneficiaries

Edition 2023 on 2020 data

pursuant to Regulation (EC) No 1322/2007

of 12 November 2007

implementing Regulation (EC) No 458/2007 of the European Parliament
and of the Council on the European system of integrated social protection
statistics (ESSPROS) as regards the appropriate formats for transmission,
results to be transmitted and criteria for measuring quality for the
ESSPROS Core System and the module on pension beneficiaries

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Introduction

Annex II, point 3.2 of Commission Regulation (EC) No 1322/2007 of 12 November 2007 requires Member States to transmit annually to Eurostat quality reports on the Pension beneficiaries of the European System of Integrated Social Protection Statistics (ESSPROS).

On the basis of national quality reports, Eurostat is required to produce a consolidated version summarising the results for all countries and an overall quality assessment of the ESSPROS Pension beneficiaries data collection.

This Quality Report concerns the 2020 data on pension beneficiaries in Europe (EU27 + IS, NO, CH, ME, RS, TR and BA). Accordingly, most of the information contained in this report refers to 2020 data and only some chapters deal with information on the years 2006–2020 (i.e. in the time series analysis). The data collected by the countries consist of the total number of pension beneficiaries classified by categories and by schemes providing pension benefits.

The European System of Integrated Social Protection Statistics

The pension beneficiaries (PB) module is included in the European System of Integrated Social Protection Statistics (ESSPROS), which consists of a Core System and two modules. The other module concerns data on net social protection benefits.

The Core System (CS) consists of quantitative data (QD) and qualitative information (QI). The QI includes for each country a detailed description of all the national social protection schemes and the related social benefits. This includes description of the pension schemes. QD and PB data are transmitted to Eurostat by scheme as well as at all schemes national level.

A social protection scheme is defined in the art. 2 of the Regulation (EC) No 458/2007 of the European Parliament and of the Council of 25 April 2007 as: 'a distinct body of rules, supported by one or more institutional units, governing the provision of social protection benefits and their financing'.

According to Annex II to Regulation (EC) No 458/2007 of the European Parliament and of the Council of 25 April 2007, "Pension Beneficiaries" (PB) are defined as recipients of one or more periodic cash benefits under a social protection scheme falling within seven pension categories grouped into four basic functions.

The **seven categories** of pensions in this module are:

- Disability pension;

- Early retirement benefit due to reduced capacity to work;
- Old-age pension;
- Anticipated old-age pension;
- Partial pension;
- Survivors pension;
- Early retirement benefit due to labour market reasons.

The **four functions** of the module are:

- Disability (grouping the first two categories of pensions above);
- Old age (grouping the next three);
- Survivors (the sixth category);
- Unemployment (the last category).

The aim of the module on pension beneficiaries is to provide the total number of beneficiaries:

1. for each of the seven categories of pensions;
2. for each of the four functions grouping these categories;
3. for the sum of old-age and survivors function;
4. for the aggregation of the four functions, at 'Total' level.

In general, the number of pensions received by pensioners and the actual number of pensioners differ, as some pensioners might be in receipt of more than one pension. The total number of beneficiaries is therefore defined as the number of persons receiving at least one pension (i.e. anyone who receives more than one pension should be counted only once).

The seven pension categories (elementary items) also have codes identical to the codes used throughout the Core System, and all aggregations have their own codes. For the sake of simplicity, the codes will be used mainly for categories of pensions.

Codes and names of pension beneficiaries items are listed in table 1. It also shows that the beneficiaries of the seven categories of pensions are split into two types: means tested[1] and non-means-tested. As a consequence, the number of **elementary pension categories**, for which data are collected, is **fourteen**.

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[1] *The granting of benefits is subject to the level of income/wealth of beneficiaries.*

Table 1 — Codes and names of pension beneficiaries items

Item code	Item name	Type of the item
1000000	Total pension beneficiaries	Aggregate
1120110	Total pension beneficiaries in disability function	Aggregate
1120111	Disability pension beneficiaries	Aggregate
1120112	Beneficiaries receiving early retirement benefits due to reduced capacity to work	Aggregate
1121111	Non-means-tested disability pension beneficiaries	Elementary
1121112	Non-means-tested beneficiaries receiving early retirement benefits due to reduced capacity to work	Elementary
1122111	Means-tested disability pension beneficiaries	Elementary
1122112	Means-tested beneficiaries receiving early retirement benefits due to reduced capacity to work	Elementary
1130110	Total pension beneficiaries in old age function	Aggregate
1130111	Old-age pension beneficiaries	Aggregate
1130112	Anticipated old-age pension beneficiaries	Aggregate
1130113	Partial pension beneficiaries	Aggregate
1131111	Non-means-tested old-age pension beneficiaries	Elementary
1131112	Non-means-tested anticipated old-age pension beneficiaries	Elementary
1131113	Non-means-tested partial pension beneficiaries	Elementary
1132111	Means-tested old-age pension beneficiaries	Elementary
1132112	Means-tested anticipated old-age pension beneficiaries	Elementary
1132113	Means-tested partial pension beneficiaries	Elementary
1140111	Total pension beneficiaries in survivors function	Aggregate
1141111	Non-means-tested survivor's pension beneficiaries	Elementary
1142111	Means-tested survivor's pension beneficiaries	Elementary
1160113	Total pension beneficiaries in unemployment function	Aggregate
1161113	Non-means-tested beneficiaries receiving early retirement benefits for labour market reasons	Elementary
1162113	Means-tested beneficiaries receiving early retirement benefits for labour market reasons	Elementary
1190110	Total pension beneficiaries in old-age and survivors functions	Aggregate

Data on Pension beneficiaries are collected from 34 countries: 27 belonging to EU[2] plus Iceland (IS), Norway (NO), Switzerland (CH), Montenegro (ME), Serbia (RS), Türkiye (TR) and Bosnia and Herzegovina (BA).

The number of pension schemes across the countries varies according to the specific nature of the social protection system in that country.

The number of schemes with data for pension beneficiaries in 2020 by country ranges from one scheme (HU, BA), two schemes (HR, LU, IS, RS) or three schemes (EE) to a much larger number, FI (15), NL (18), IT (19), BE and FR (22).

This report is compiled using the National Quality Reports (NQR) transmitted by the countries to Eurostat and accessible from chapter 9 of this document.

There is a separate consolidated quality report on the Core System.

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(2) The EU countries participating in ESSPROS data collection are: Belgium (BE), Bulgaria (BG), Czechia (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE).

The ESSPROS Regulations

Prior to 2007, countries sent statistics on the ESSPROS Core System to Eurostat on the basis of a gentlemen's agreement. During that period the reference manual was the 'ESSPROS Manual 1996'.

In 2007 and 2008, three new pieces of legislation were introduced in the field of social protection statistics:

- Regulation (EC) No 458/2007 of the European Parliament and of the Council;
- Commission Regulation No 1322/2007;
- Commission Regulation No 10/2008.

Regulation (EC) No 458/2007 provides for:

- A methodological framework (based on common standards, definitions, classifications and accounting rules), intended to be used for compiling ESSPROS statistics on a comparable basis;
- Time limits for the transmission of statistics compiled according to ESSPROS.

Commission Regulation No 1322/2007 supplements Regulation No 458/2007 and specifies:

- The results to be transmitted and the appropriate formats for transmission;
- The criteria to be followed in order to measure quality;
- Time limits for the transmission of national quality reports.

Commission Regulation No 10/2008, for the Core System of ESSPROS and for the module on Pension Beneficiaries, focuses on:

- Definitions;
- Detailed classifications;
- Updating of the rules for dissemination.

Since these Regulations came into force, the reference manual for data collection has become the 'ESSPROS manual', produced by the European Commission in collaboration with Member States.

As Decision No 92/2008 of the EEA Joint Committee regarding Regulation No 10/2008, amending Annex XXI (Statistics) to the EEA Agreement entered into force in July 2008, EEA/EFTA (non-EU) countries have been required to submit ESSPROS data by the deadlines laid down in the ESSPROS Regulations as from the 2009 data collection.

Structure of the Quality Report

The aim of this quality report is to bring together the multiple components of the quality of the data collection on pension beneficiaries by applying the criteria commonly used in assessing the quality of statistics.

The European Statistical System (ESS) has defined the following quality criteria (to be applied to statistical data): Relevance, Accessibility and Clarity, Timeliness and Punctuality, Coherence, Comparability, Accuracy.

- **Relevance** refers to the extent to which the statistical data satisfies the needs of the users;
- **Accessibility** refers to the physical conditions under which users can obtain the statistical data;
- **Clarity** refers to the availability of appropriate documentation concerning the statistical data and to additional assistance supplied by producers to users in relation to those data;
- **Timeliness** of statistical data is the length of the time between their availability and the moment at which the phenomena they describe occurred;
- **Punctuality** refers to the time lag between the release date and the target date by which the data should have been delivered, for instance, in the case of the module on pension beneficiaries, the deadlines set by the Framework Regulation;
- **Coherence** aims to measure the reliability of the statistical data when combined with other statistics in different ways and for other uses;
- **Comparability** aims to measure the effect of the differences in applied statistical concepts and measurement procedures when the statistical data is compared between geographical areas, over time or between different domains;
- **Accuracy,** in a statistical sense, refers to the closeness of the statistical data to the (generally) unknown true or exact value of the measured phenomena. Usually this closeness can be measured by means of statistical indicators, such as bias and variability of the statistical data.

1. Relevance

Relevance specifies the extent to which the statistical data satisfies the needs of the users. The collection of pension beneficiaries data follows the ESSPROS standard jointly agreed by Eurostat, the Member States (MS), the EEA countries and Switzerland. In this respect, it is very important that the data collection should provide comparable and harmonised information on the number of beneficiaries of some "cash periodic social protection benefits" in Europe.

The information supplied for PB is extremely detailed. It is classified by benefit, by social protection scheme and, at total schemes level, also by gender.

The information on whether the granting of benefit is subject to a specific level of income or wealth is also supplied for each benefit, i.e. the beneficiaries for each category are split into two types: means-tested (MT) and non-means-tested (NMT).

Data are supplemented by compulsory information on the legal or standard age of retirement for old age benefits by gender and reference date/method of calculation by scheme for the collection.

The main users of this collection are DG EMPL (the European Commission's Directorate-General for Employment, Social Affairs and Equal Opportunities), OECD (Organisation for Economic Co-operation and Development) and the ILO (the International Labour Organisation).

The PB provides a very large amount of information that can be used for social policy analysis across all participating countries.

ESSPROS Pension beneficiaries data have been used also in the Social Protection Committee[3] report "**The social impact of the economic crisis and on-going fiscal consolidation**".

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(3) The Social Protection Committee is a Treaty-based Committee (Article 160 of the Treaty on the Functioning of the EU) which was formally created through Council Decisions in 2000 and 2004. The SPC serves as a vehicle for cooperative exchange between Member States and the European Commission in the framework of the Open Method of Co-ordination on social inclusion, health care and long-term care as well as pensions ("Social" OMC).

2. Accessibility and clarity

The data on pension beneficiaries are drawn up according to the ESSPROS Manual and user guidelines (appendix III), published on the Eurostat website at the following link:

https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-22-013

Regarding PB data collections, as some pension beneficiaries might receive more than one pension, one of the main requirements of the manual is to treat the double counting.

Calculating the number of beneficiaries entails gradual aggregation in moving from a unit (individual scheme) level to an overall (all schemes) level. This means that double counting must be identified and dealt with at all stages of this gradual process.

The accessibility and clarity of the statistical data refers to the actual availability of the data for the users, in terms of the figures themselves and in terms of appropriate documentation.

The results of the 2022 collection on pension beneficiaries 2020 data are disseminated on the Eurostat database accessible via the dedicated section on social protection, which can be found at the following address on the Eurostat website:

http://ec.europa.eu/eurostat/web/social-protection

In this dedicated section, users can find links to the legal basis (the ESSPROS Regulations), the methodology (the ESSPROS Manual) and data and information relating to the Core System and the modules on pension beneficiaries and on net social benefits.

2.1 Eurostat dissemination policy

The Framework Regulation (EC) No 458/2007 of the European Parliament and of the Council of 25 April 2007 (Annex 2, point 3) sets the deadline for the Commission to disseminate the ESSPROS pension beneficiaries data for year N at national (all schemes) level at 31 October of the year N+2.

Commission Regulation (EC) No 10/2008 lays down the rules for dissemination of the ESSPROS pension beneficiaries module (Annex 3, point 2), to allow the publication of data by scheme or group of schemes (for those countries not giving explicit approval of full dissemination for confidentiality reasons).

2.2 Metadata

2.2.1 Qualitative information

Under the terms of Regulation No 458/2007 of the European Parliament and of the Council (Article 3 and Annex I, point 2.2), each transmission of ESSPROS quantitative data has to be accompanied by an annual updating of the qualitative information, which acts as a complete set of metadata (for ESSPROS data), providing a general description of the schemes, a detailed description of the benefits and information on recent changes and reforms concerning the social protection system of each country.

The qualitative information at scheme level has been disseminated by Eurostat in the ESSPROS dedicated section on the Eurostat web site:

http://ec.europa.eu/eurostat/web/social-protection/data/qualitative-information

2.2.2 Metadata other than qualitative information

Useful metadata information is contained in the ESMS file attached to ESSPROS tables in the Eurostat database. It can be accessed by clicking the icon associated to the Social protection data tree at the following address:

http://ec.europa.eu/eurostat/web/social-protection/data/database

3. Timeliness and punctuality

Timeliness of statistical data means the length of time between the availability of the data and the moment at which the phenomena they describe occurred. Punctuality refers to any time lag between the release and the date when the data should have been delivered, for instance, in the case of the pension beneficiaries module, by the deadlines laid down by Regulation No 458/2007 of the European Parliament and of the Council.

3.1 Timeliness

All Member States of the EU plus IS, NO, CH, ME, RS, TR and BA have transmitted to Eurostat pension beneficiaries data for the year 2020, plus any revisions for 2006–2019.

The deadline set by the Framework Regulation, namely the end of May 2022 — which corresponds to a time lag of 17 months — was met by most of the countries, except for EE (6 days delay), IS (21 days delay) and ME, which sent their data with a delay of 51 days.

Fifteen countries – DK, DE, ES, FR, HR, IT, LV, LT, LU, MT, AT, PT, SK, SE and CH – transmitted PB data at least one month before the deadline set by the Regulation.

As stipulated by the Framework Regulation (n.458/2007), the PB data should be made available to the general public with a time lag of not more than 22 months after the end of the reference period.

3.2 Punctuality

As already stated, the date for release of the PB data is set by the Framework Regulation (Annex II, point 3). It stipulates that data at 'all schemes' level for year N have to be disseminated by Eurostat by 31 October of year N+2. Data by scheme (or by groups of schemes) can be published as specified in Commission Regulation 10/2008, without a fixed deadline.

PB data at all schemes level for the year 2020 were published by Eurostat by 31 October 2022 for 27 countries, and with a delay of less than one month for the remaining 7 countries.

Some delay in data dissemination has to be considered an exceptional case due to technical and organisational constraints.

4. Coherence

The coherence of two or more statistical outputs refers to the suitability of the data to be reliably combined in different ways and for various purposes, i.e. the degree to which the underlying statistical processes use the same concepts (classification, definition and target population) and harmonised methods.

4.1 Coherence between Core system quantitative data (QD) and Pension beneficiaries (PB) data

This section reports on the coherence analysis carried out during the process to validate the questionnaires for both PB and QD. In most cases, the logical coherence is analysed, expressed in terms of incoherencies between the contents of the two databases and to a lesser extent in terms of numerical indicators.

Coherence between the CS and the PB module for the years 2006–2020 has to be ensured as far as possible.

If there are benefits classified under a particular pension item for a scheme in the QD, the number of beneficiaries should be found in the corresponding item in the PB module, and vice versa.

As a consequence there are two types of inconsistencies:

> Type 1: benefits are reported in QD without beneficiaries in PB;

> Type 2: there are beneficiaries in PB and no benefits reported in the QD.

Table 2 below summarises the number and size of type I incoherencies for 2020. The 'Expenditure' column lists the amount of money spent on benefits under pension items in 2020 without the corresponding statistics on number of pensioners. The last column measures the impact of these inconsistencies in terms of total pension expenditure.

The number of incoherencies depends on the complexity of the social protection systems; the most complex systems tend to have more incoherencies that are due to lack of available information, either on beneficiaries or on benefits, as for the French case.

Table 3 below presents the number and size of type II incoherencies, by country.

Table 2 — Number and importance of incoherencies type I between PB and QD

Country	Number of incoherencies type 1 between QD and PB	Expenditure without corresponding beneficiaries (MIO NAC*)	Percentage of expenditure without corresponding beneficiaries out of TEPB**
Belgium	3	54.4	0.1%
Denmark	1	654.4	0.2%
Germany	1	900.0	0.2%
Ireland	3	0.6	0.0%
Spain	14	4422.8	2.7%
France	73	97802.4	26.7%
Luxembourg	3	226.9	1.2%
Portugal	2	366.2	0.6%
Slovenia	1	15.1	0.2%
Finland	6	191.2	0.4%
Iceland	1	635.1	0.1%
Norway	1	1638.0	0.2%

(*): MIO NAC is millions of national currency
(**) TEPB = Total expenditure on Pension benefits

Table 3 — Number and importance of type II incoherencies between PB and QD

Country	Total number of incoherencies type 2 between QD and PB	Number of beneficiaries concerned
Belgium	1	155842
France	14	998809
Lithuania	1	7
Luxembourg	2	1488
Slovakia	2	1135505
Finland	4	12668
Iceland	3	3204

4.2 Coherence between Core system qualitative information (QI) and Pension beneficiaries (PB) data

Coherence between PB data and QI must be achieved as far as possible. Where pensions are classified under a particular scheme, the description of these benefits should be found in the qualitative information and vice versa, unless the scheme described in the QI has not yet entered into force (i.e. no pensions are provided in the reference year) or has expired (i.e. the scheme has been split into two different schemes, merged with another scheme or definitively abolished).

Since this Consolidated Quality Report refers to the 2022 data collection, the coherence between the module on PB and QI is explored here only with respect to data for the year 2020.

All the transmitted QI demonstrated good coherence for the year 2020, providing at least a brief description of all the pension benefits included in their PB module.

5. Comparability

Comparability is a specific aspect of coherence and measures the impact of the differences in applying statistical concepts, measurement tools and procedures. The term 'comparability' can be used when referring to:

- Comparing statistics between geographic areas (over regions/countries);
- Making comparisons between different parts of the area of interest (if applicable);
- Comparing the same data over time.

As the legal basis refers only to 2006–2020 data, this chapter discusses mainly comparability between countries and provides only a brief summary of how changes in data over time are recorded. In this quality report, no comparison is made with other domains.

In order to analyse geographic comparability, this report explores:

1. The coverage of final figures by country, at national level (all schemes) or in terms of only part of the schemes (items or functions);
2. Whether some countries failed to apply the methodology described in the manual (according to the Framework Regulation, the definitions in the 'ESSPROS manual' are the same for all countries).

Social protection systems differ considerably among countries, and there are wide variations in the number and relative importance of the schemes. In some countries, the number of schemes is very large and some — usually those with a small number of beneficiaries — are only partially covered by data sources. In some countries, there are also cases of schemes not covered by data sources, and the figures for these schemes are estimates.

5.1 Coverage in terms of schemes

Six countries report schemes that were not covered by available data sources in 2020: BE, ES, PT, SI, FI and CH.

- BE reports missing beneficiaries for scheme 48
- ES declares that for schemes 16, 23, 25, 31 and 33 the number of beneficiaries is not available and it is not possible to estimate it. However, schemes 16, 23, 25 and 31 are supplementary and beneficiaries are included at "all schemes" level. Only a small number of beneficiaries under scheme 33 are not included in the total.
- PT reports problems with schemes 15 and 17: data are not available, although with no impact on the estimation of the total of pensioners for all schemes, because its pensioners are included in other pension schemes such as 65. These schemes only pay supplementary and transitional pension benefits.
- SI reports that data is not available for private pensions plan (second pillar).

- FI notes that data is missing for scheme 17, but the beneficiaries are shown as beneficiaries of other schemes when applicable.
- CH reports missing data for scheme 37 "Vested benefits accounts / policies" [Freizügigkeitsleistungen], which at the moment are not available.

5.2 Coverage in terms of beneficiaries

In some cases, the data sources used do not supply all the information needed for a scheme. There are cases where some categories of beneficiaries of the scheme are missing (problem of the national coverage within the scheme). In other cases, only aggregated figures are available, so a breakdown is impossible unless estimation methods are applied.

Six countries report problems related to the coverage of specific beneficiaries within some schemes: CZ, SE, IE, LU, CH and ME.

- CZ reports incomplete coverage in scheme 3, item 1121111. Breakdown by gender in the whole scheme 3 is missing.
- SE reports for scheme 14 that no beneficiaries are reported as living outside the country because it is not possible to make an estimation of the number.
- IE reports that for scheme 24 the number of survivors' pensions beneficiaries is not known. However, there is an estimate of the value of survivor's pensions received in the core system.
- LU reports that special pension schemes of international institutions (eg ECB, EIB, …) do not belong to the national social protection system.
- CH reports that for scheme 11 the number of pension beneficiaries is not available and is therefore estimated.
- ME reports that the breakdown of beneficiaries by gender is not available for survivor pensions in schemes 1, 20, 21, 22 and for old age benefits for scheme 10.

5.3 Pensioners outside the country

Fourteen countries supplied the number of beneficiaries living abroad separately (BG, CZ, ES, HR, IT, CY, LV, LU, HU, MT, SK, FI, IS and ME). The percentages of this type of pensioners among the total number of pension beneficiaries range from 1.1 % (ES) to 46.8% (LU).

Table 5, below, lists the information available on pensioners abroad for the 2020 data collection.

Table 5 — Number of beneficiaries living outside the country

Country	No of pensioners abroad	Total no of pensioners	Percentage of pensioners abroad
BG	27805	2114915	1.3%
CZ	100026	2979561	3.4%
ES	112115	9898563	1.1%
HR	157999	1241085	12.7%
IT	384129	15645559	2.5%
CY	7336	169917	4.3%
LV	15369	579097	2.7%
LU	96046	205050	46.8%
HU	35248	2137973	1.6%
MT	7447	97070	7.7%
SK	31114	1905141	1.6%
FI	55335	1617561	3.4%
IS	9268	128292	7.2%
ME	27805	2114915	1.3%

- BE figures do not include pensioners abroad.
- For DK, EE, IE, EL, FR, SI, NO, TR and BA there is no information as to whether the pensioners abroad are included or not in the figures provided.
- DE, LT, NL, AT, PL, PT, CH and RS have information on pensioners abroad only at schemes level.
- In Romania the administrative sources do not provide distinct data on national abroad pensioners.
- SE is not able to make an estimation of the number of beneficiaries living outside the country for scheme 14.

5.4 Cases of non-application of the ESSPROS methodology (2006–2020 data)

The main difficulties encountered by some countries with the application of ESSPROS methodology can be summarised as follows:

a) Some cases of incorrect treatment of double counting detected by the validation process carried out by Eurostat are actually examples of failure to apply the ESSPROS methodology (see chapter on double counting).

b) HR reports that beneficiaries of anticipated old age pension reaching the legal retirement age are still recorded in item anticipated old age pension. The same applies to the related expenditure in the Core System data.

c) CH reports that for scheme 10 the exact distinction between beneficiaries of old age pensions and disability pensions is not possible. Therefore a certain number of beneficiaries of a disability pension might be above the standard retirement age.

5.5 Comparability over time (2006–2020 data)

For the purposes of comparing data over time, data from 2006 to 2020 allow an analysis of time series.

There are few changes in terms of schemes, data sources, timeliness and coverage, which means that the collections are comparable.

Concerning the number of schemes, almost all countries retained the same number and the benefits are almost always the same over time. In the 2006-2020 time lag, some schemes have been added, for example by BE, NL, PL, PT and RO.

The figures reported in the 2006–2020 questionnaires show good coherence, because the differences simply reflect normal variations in the number of beneficiaries. Some big differences were registered between the 2006 and 2007 data for some countries, although these are very few and reflect methodological issues.

6. Accuracy and reliability

Accuracy is a very important criterion for measuring the quality of a data set. The closeness between the figures in the data collection and the actual data is very important. As a consequence, this chapter is more extensive.

The accuracy of the data in the ESSPROS data collection depends on the accuracy of the data received from the Member States and other participating countries.

The collection contains mainly figures that are obtained from administrative data sources; only a small percentage of the figures are estimates using surveys or other sources/methods.

As the data used for PB data collection are mainly derived from administrative/register-based data sources, the standard measures of accuracy are not applicable. Accuracy is therefore assessed by reporting non-sampling errors in data sources, such as limitations in coverage and measurement problems, and by evaluating the method of estimation used and revisions (see chapter 7).

As regards statistics on pension beneficiaries, their accuracy can also be evaluated by analysing the method used for the treatment of double counting at all stages of data aggregation:

1. At elementary pension category level within a single scheme — type 1 double counting;
2. At elementary pension category level between schemes ("all schemes" level) — type 2;
3. At pension category level (aggregation between non-means-tested (NMT) and means-tested (MT) subcategories) — type 3;
4. At intra-function level — type 4;
5. At inter-function level (old-age plus survivors) — type 5;
6. At total pension beneficiaries level— type 6.

See as a reference table 1 in the Introduction.

6.1 Analysis of the original national data sources

6.1.1. Geographical coverage of data sources

In general data sources have full geographical coverage (i.e. at whole country level). In Belgium there are three sources which cover the Flemish region, the Walloon region and the Brussels-Capital region respectively.

6.1.2. Types of data sources

The most important type of data source used by countries is administrative (register-based) data sources, as shown in table 6 below.

Out of a total of 167 data sources used by the countries, 151 are administrative, 7 are surveys, 4 are census and 5 are other types.

Table 6 — Types of data sources used by countries for data 2020

Country	Administrative data (Including Register based data)	Surveys	Census	Other	Total
BE	15				15
BG	2				2
CZ	6				6
DK	3			1	4
DE	9	1			10
EE	2				2
IE	3				3
EL	2	2			4
ES	6				6
FR	7				7
HR	3				3
IT	1				1
CY	4		1		5
LV	4				4
LT	5				5
LU	5				5
HU	1				1
MT	4				4
NL	7			1	8
AT	11			2	13
PL	5				5
PT	5	1		1	7
RO	4	1			5
SI	3				3
SK	2				2
FI	4				4
SE	2				2
IS	1				1
NO	6				6
CH	6	2	3		11
ME	6				6
RS	2				2
TR	4				4
BA	1				1
TOT	151	7	4	5	167

6.1.3 Frequency and time lag of data provided by the data sources

Most of the data sources (149 out of 167) provide annual data. A frequency like monthly or quarterly data is observed for all data sources in RO and BA, and for some data sources in CZ, EE, HR and SE. Only two data sources in AT and one in DE have a frequency longer than 12 months. Table 7 below lists the information available on frequency of the data source according to data 2020.

Table 7 —Frequency of the national data sources used by country

Country	< 1 year	yearly	>1 year	not available	Total
BE		14		1	15
BG		2			2
CZ	4	2			6
DK		4			4
DE		9	1		10
EE	1	1			2
IE		3			3
EL		4			4
ES		6			6
FR		7			7
HR	1	2			3
IT		1			1
CY		5			5
LV		4			4
LT		5			5
LU		5			5
HU		1			1
MT		4			4
NL		8			8
AT		11	2		13
PL		5			5
PT		6		1	7
RO	5				5
SI		3			3
SK		2			2
FI		4			4
SE	1	1			2
IS		1			1
NO		6			6
CH		11			11
ME		6			6
RS		2			2
TR		4			4
BA	1				1
TOTAL	13	149	3	2	167

The time lags of the data sources range from one month to two years. Table 8 below lists the information about time lag of data source expressed in months, according to the result of 2022 data collection (data 2020). The majority of data sources have a time lag less or equal to six months, followed by a gap of 7 to 12 months. Less than one fifth of data sources had a time lag of more than 1 year.

Table 8— Time lag of national data sources, by country (in months)

Country	< 7 months	7-12 months	> 12 months	Not specified	Total
BE		1	13	1	15
BG	2				2
CZ	5	1			6
DK	3		1		4
DE		8	2		10
EE	2				2
IE	1	1	1		3
EL		1	3		4
ES		6			6
FR	1	6			7
HR	3				3
IT		1			1
CY		1	4		5
LV	2	2			4
LT	4	1			5
LU	5				5
HU	1				1
MT	4				4
NL	2	6			8
AT	4	7		2	13
PL	5				5
PT		4	2	1	7
RO	5				5
SI		3			3
SK	2				2
FI	1			3	4
SE	1		1		2
IS		1			1
NO	6				6
CH		8	3		11
ME	6				6
RS	2				2
TR	2	2			4
BA	1				1
TOTAL	70	60	30	7	167

6.1.4 Reported issues in the original data sources that require estimates

Some countries report problems with regard the completeness of the information provided by the data sources used. The time lag of some of the data sources is too long and the data cannot be used on an annual basis. Other sources do not provide information on age group and gender, which means that beneficiaries cannot be split between functions according to the ESSPROS methodology. Some sources do not provide enough information for splitting by function, while others do not provide the information necessary to eliminate the double counting of beneficiaries.

The main problems encountered in the original data sources that can only be solved using assumptions or estimates (see paragraph 6.2 below) can be summarised as follows:

- Unavailable or incomplete data on age groups or for splitting by gender;
- Information not available for splitting the number of beneficiaries by items or by function;
- Time lag too long or different reference date;
- Problems of coverage either for the number of beneficiaries or for double-counted beneficiaries.

More details about those problems are available in the National Quality Reports accessible from annex of this document (chapter 9).

6.2 Estimates of statistics

Three countries report estimates for some schemes:

- IT estimates figures for scheme 22 by using the pension funds register;
- SE provides estimates for scheme 14 based on a sample of a register;
- CH provides estimates for scheme 11 based on an average pension for high officials.

Fourteen countries – BE, DE, DK, IE, EL, HR, NL, AT, MT, PT, RO, CH, TR and BA – report estimates for some items within schemes or for their breakdown by gender.
More details about those problems are available in the National Quality Reports accessible from the annex of this document (chapter 9).

6.3 Information on the treatment of double counting

The treatment of double counting is divided into six steps (see introductory part of this chapter), according to the order in which the aggregation is to be performed.

The approach of the various countries to double counting is outlined below, with brief descriptions of each case.

National Quality Reports in the annex of this document (see chapter 9) provide more detailed information about the different types of double counting and their treatment.

a) Treatment at an elementary pension category level within a single scheme (double counting type 1)

Nineteen countries (BG, DE, EE, IE, EL, FR, ES, IT, CY, LT, MT, NL, AT, PT, SK, SE, IS, CH and TR) report the existence of this type of double counting (DC type 1). The preferred method of treatment is to use a personal identification number (PIN), but other methods such as using an assumption, using micro- level data, using a distribution known from other sources and applied to the case or using other administrative data are also applied. A brief description of these types of treatment is given below:

- In EE, the only categories of pensioners who can receive dual benefits are orphans under scheme 2, item 1141111. The assumption for the treatment of double counting is that every orphan receives two benefits (estimation based on a hypothesis);
- IE omits from item 1121111 in scheme 28 the recipients of Disablement Benefit as it's assumed that they receive another pension also coded to 1121111;
- CY uses micro level data for items 1121111 and 1131111 in scheme 4;
- LT uses micro level data for items 1131111 and 1141111 in scheme 12;
- AT, for scheme 1 item 1141111, calculates the number of pensioners using estimation based on previously known data;
- PT uses administrative data for items 1131111 and 1141111 in schemes 63 and 65;
- SK uses micro level data for item 1131111 in schemes 5 and 13;
- CH uses micro level data for item 1141111 in scheme 1;

This type of double counting is treated in some countries by using different types of personal identification numbers or PINs (BG, EL, ES, IT, MT, SE, IS and TR). They are listed by country, item and scheme in Table 9.

In five countries there are cases of no treatment for this type of double counting: DE reports no treatment of this DC (only benefits are available for all categories inside a single scheme), FR for one item in three schemes, NL for three items in three schemes, AT for three items in three schemes and IS for one item in one scheme.

Table 9 — Schemes and items for which double counting is treated using a personal identification number (PIN)

Country	Item	Scheme
BG	1141111	Schemes 1, 2, 3
EL	1121111, 1131111, 1141111	Schemes 12, 14, 25
ES	1121111	Schemes 22, 27, 34
ES	1122111	Scheme 19
ES	1131111, 1131112, 1141111	Schemes 22, 27, 28, 34
ES	1132112	Schemes 19, 22, 27, 28, 34
ES	1132111	Scheme 19, 30, 34
ES	1142111	Scheme 19, 28, 34
IT	1121111	Schemes 3, 4, 5, 10 ,11, 14, 16, 24
IT	1121112	Schemes 3, 10
IT	1122111	Schemes 23, 25
IT	1131111	All except 12,15, 25
IT	1131112	Schemes 3, 4, 5, 6, 10, 11, 19, 22
IT	1132111	Scheme 8
IT	1141111	All schemes except 12,15, 20, 25
IT	1161113	Scheme 8
MT	1121111	Schemes 1, 2
MT	1131111	Scheme 1, 6
MT	1132111	Scheme 2
MT	1141111	Scheme 1, 6
SE	1121111	Scheme 6, 9
SE	1131111	Scheme 6
SE	1141111	Scheme 6, 9, 19
IS	1122111, 1132111, 1132112	Scheme 8
TR	1141111	Schemes 12, 33, 35

b) Horizontal aggregation between schemes at an elementary pension category level (type 2)

This type of double counting is treated by means of methods such as using a PIN, assumptions, estimations or micro-level data. Some countries obtained figures with no double counting directly from data sources, so no treatment was necessary.

Twenty seven countries (all except EE, LV, HU, RO, ME, RS and BA) report the existence of this type of double counting (DC type 2).

Some countries use PINs for DC type 2 (as in the case of type 1 double counting):

- BG applies this method to item 1121111 between schemes 1 and 2, and to items 1131111 and 1141111, between schemes 1 and 3;
- EL applies this method to items 1121111, 1131111 and 1141111 between schemes 12, 14 and 25;
- ES uses a personal identification number to eliminate double counting for items 1121111, 1131111, 1131112, 1141111 and 1142111 between schemes 19, 22, 27, 28 and 34 and item 1132111 between schemes 30 and 34;
- LU applies this method to items 1131111 and 1141111 between schemes 3 and 6;
- MT uses the method to eliminate double counting between schemes 1 and 2 for item 1121111, and between schemes 1 and 6 for items 1131111 and 1141111;
- PL applies this method to item 1131111 schemes 24 to 28 and to item 1131112 schemes 22, 23, 25 and 40;
- In SE an ID-number is used for calculating the number of beneficiaries without double counting for items 1121111, 1131111, 1131112 and 1141111 between schemes 5, 6, 9, 19, 21, 22, 23;
- IS applies this method to items 1121111, 1131111 and 1131112 between schemes 8 and 17;
- CH uses this method plus micro level data for item 1121111 schemes 2, 5 and 10 and item 1141111 schemes 1 and 5;
- TR uses this method to eliminate double counting between schemes 33 and 35 for item 1141111;
- IT and FI also use PINs to eliminate double counting for almost all items in relevant schemes.

Two countries (LT and SK) use micro-level data in order to eliminate double counting for certain items between relevant schemes.

Other countries treat this type of double counting with estimates based on assumptions:

- BE, for item 1121111 schemes 1, 3, 8, 9, 34, 36, 37and 44 the treatment is based on the summation of these schemes with elimination of the beneficiaries of scheme 8 and scheme 9 (partially) and of scheme 34 and scheme 37 (totally). For items 1131111 (schemes 6, 7, 29, 30, 31, 45, 49, 82, 84) and 1141111 (schemes 6, 7, 8, 29, 30, 34, 44, 45, 46, 82, 84) BE proceeds with the aggregation without double counting by eliminating the pensioners of some schemes ;
- DK assumes that:
    - for item 1131111 all beneficiaries under schemes 43, 44 and 45 also receives a benefit under scheme 15;
    - for item 1132111 all beneficiaries under scheme 30 also receives a benefit under scheme 43;
    - for item 1141111 50 percent of the beneficiaries under scheme 45 and scheme 48 are also receiving a pension under scheme 49;

- In IE it is assumed that those old age pension beneficiaries (1131111) and survivor pension beneficiaries (1141111) in scheme 24 are also receiving a pension under scheme 28;
- For HR all beneficiaries in scheme 11 under items 1121111, 1131111 and 1131112 and 1141111 are also beneficiaries in scheme 2;
- NL uses and estimation method based on the entire population with a supplementary pension to estimate the number of beneficiaries with a survivor pension (1141111).
- AT assumes that, as scheme 20 is a supplementary scheme, all beneficiaries under item 1131111 are double-counted with either scheme 1, 2 or 5. The share of double counting between schemes 3 and either scheme 1, 2 or 5 is also estimated for item 1141111;
- For SI, it's assumed that for items 1121111, 1131111, 1131112 and 1141111 beneficiaries are presented in both schemes 15 and 17 and so are excluded those from the scheme with lower number;
- NO estimates double counting between schemes 1 and 7, for item 1132111, at 60 % of the number of beneficiaries in scheme 7. For item 1142111, double counting is similarly treated between schemes 1 and 3 by removing 50% of beneficiaries of scheme 3;
- CH uses estimations based on hypothesis for items 1122111 for schemes 14 and 32, item 1131111 for schemes 1, 3, 5, 10 and 11, item 1131112 for schemes 1 and 3, item 1132111 for schemes 13 and 32, item 1141111 for schemes 1, 10 and 11 and item 1142111 for schemes 10 and 13.

Also other methods of treatment are used for double counting type 2:

- CZ eliminates double counting for items 1131111 and 1141111 among schemes 1, 3, 9 and 10 by excluding beneficiaries of scheme 3 (supplementary pensions) from the total;
- In DE information from the survey "Alterssicherung in Deutschland" are used for the elimination of double counting between schemes 1 and 20 for items 1121111, 1121112, 1131111, 1131112 and 1141111.
- FR uses estimates based on a survey for DC type 2 for items 1130110 and 1140111;
- CY eliminates double counting for item 1131111 among schemes 1, 2, 4, 5 and 6 by summing up all beneficiaries from scheme 1 (social insurance scheme) and beneficiaries from scheme 4; for item 1121111 and schemes 1, 4, 5, 6 as well as for item 1141111 and schemes 1, 2, 5 and 6 only the beneficiaries of scheme 1 are counted;
- In NL the total number of disability and old age pensions are estimated based on previously known data about the beneficiaries of the second pillar pension schemes;
- In AT, the number of beneficiaries of invalidity, old age, early retirement and survivors' pensions and the correspondent civil servants' pensions is estimated with the share of double counting. This is valid for items 1121111, 1131111, 1131112 and 1141111 between schemes 1 and 2. Moreover, the number of beneficiaries of survivors' pension of scheme 5 and in schemes 1 and 2 has been estimated with the share of double counting of disability pensions.
- PT eliminates double counting for items 1121111, 1131111, 1131112 and 1141111 between schemes 42, 43, 56, 59, 63 and 65. Double counting had been eliminated as

follows: 100% for each category in the case of schemes that only pay supplementary pensions in the same categories (schemes 42, 43 and 56); 97% in scheme 59, which pays unique and supplementary pensions whatever the category of pension; partly for items 1121111, 1131111 and 1141111, in the case of schemes 63 and 65 where unified pensions are paid to the same recipients;

- NO uses the number of beneficiaries of scheme 1 to remove double counting for item 1121111 among schemes 1, 3 and 4 because all beneficiaries of scheme 03 and scheme 04 are also beneficiaries of scheme 01; for item 1131111 and schemes 1, 3, 4, 7 and 8 the double counting is removed by summing up the old age beneficiaries from the National Insurance Scheme and other selected groups of old age beneficiaries;
- CH uses estimation based on the Household Budget Survey for items 1121111 schemes 2 and 3 and for item 1141111 schemes 1 and 3.

c) Aggregation of non-means-tested and means-tested pension categories (type 3)

Thirteen countries report double counting between the figures for the non-means-tested and means-tested pension categories.

Five countries (EL, ES, IT, MT and IS) deal with this type of double counting by using PINs.

As far as the remaining countries are concerned, they can make an estimation of this double counting, based on data already known or on hypothesis. For example:

- BE uses estimation based on previously known data to estimate DC type 3 between items 1121111 and 1122111 and for the pair 1131111-1132111 BE uses administrative data;
- DK uses estimation based on hypothesis to estimate DC type 3 between the pairs 1131111 – 1132111;
- FR uses the survey 'Enquête annuelle auprès des caisses de retraite′ (EACR) to estimate DC type 3 between 1141111 – 1142111; for the pairs 1121111-1122111 and 1141111-1142111 the means-tested pensions are just complement of the non means tested pensions, so the total number of pensions is equal to the number of non means tested pensions;
- NL removes the double counting for the pair 1131111 and 1132111 with an estimation based on previously known data;
- in AT all means-tested pensions (supplementary benefits) are paid in addition to non-means-tested pensions (basic pensions). Therefore, the number of beneficiaries without double counting is the number of beneficiaries of the non-means-tested pension;
- in RO there's a possible double counting between scheme 38 and beneficiaries of scheme 21, 22, or 23; to avoid this double counting the number of beneficiaries of scheme 38 is not included in the total;
- NO uses estimation based on hypothesis to estimate DC type 3 between the pair 1131111 – 1132111;

- in CH, according to the national legislation, double counting occurs systematically between schemes 2 and 14 for the pair 1121111-1122111 and between schemes 1 and 13 for the pairs 1131111 – 1132111 and 1141111 – 1142111.

d) Treatment of double counting for the aggregation of beneficiaries at the level of each function (type 4)

Four countries report on the treatment of this type of double counting.

- BE for items 1130111 and 1130112 the sum for item 1130110 equals item 1130111. The figure in item 1130112 is entirely included in 1130111, so that figure can be considered as a double counting;
- DK assumes that under 1120110 50 per cent of the beneficiaries of a private disability pension also receives an early retirement pension due to reduced capacity to work;
- IT for 'Disability' (DC between items 1120111 – 1120112) is using a personal identification number (PIN);
- FI, for both the 'Disability' and the 'Old age' function (between items 1130111 – 1130112 – 1130113) is using a personal identification number (PIN).

e) Double counting between 'Old age' and 'Survivors' (type 5)

The presence of double counting for item 1190110 is reported by twenty-three countries (all except EE, IE, HR, LV, PL, RO, IS, NO, ME, RS and BA). The methodologies can be classified as: using other administrative data, using a PIN, using micro-level data, using assumptions or other estimations.

f) Double counting between the four functions (type 6)

Twenty-four countries (all except EE, IE, HR, PL, RO, IS, NO, ME, RS and BA) report the treatment of double counting between all four functions (items 1120110 – 1130110 – 1140111 – 1160113).

The methodologies can be classified as: estimations based on previously known data or hypothesis, using other administrative data, using a PIN, using micro-level data, and using assumptions.

A general overview of double counting existence in ESSPROS pension beneficiaries data for the year 2020 is reported in table 10.

Table 10 — General overview of double counting existence, by country and by type.

Country	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Belgium		X	X	X	X	X
Bulgaria	X	X			X	X
Czechia		X			X	X
Denmark		X	X	X	X	X
Germany	X	X			X	X
Estonia	X					
Ireland	X	X				
Greece	X	X	X		X	X
Spain	X	X	X		X	X
France	X	X	X		X	X
Croatia		X				
Italy	X	X	X	X	X	X
Cyprus	X	X			X	X
Latvia						X
Lithuania	X	X			X	X
Luxembourg		X			X	X
Hungary					X	X
Malta	X	X	X		X	X
Netherlands	X	X	X		X	X
Austria	X	X	X		X	X
Poland		X				
Portugal	X	X			X	X
Romania			X			
Slovenia		X			X	X
Slovakia	X	X			X	X
Finland		X		X	X	X
Sweden	X	X			X	X
Iceland	X	X	X			
Norway		X	X			
Switzerland	X	X	X		X	X
Montenegro						
Serbia						
Türkiye	X	X			X	X
Bosnia and Herzegovina						

7. Revisions

Eight countries revised some figures provided in previous data collection exercises. The reasons for the revisions are classified as follows:

1. Changes in the data sources used;
2. Changes in the methods used for estimating data;
3. Conceptual adjustments;
4. Availability of final statistics (to replace previously used provisional data);
5. Other reasons (e.g. due to quality review actions).

Around 3900 figures were revised in 2020 for the 2006–2019 data on pension beneficiaries.

Table 11 below gives a general overview for PB data revisions according to the result of the ESSPROS pension beneficiaries data collection with 2020 as reference year; more details can be found in the national Quality reports accessible from annex to this document (see chapter 9).

Table 11 — Revisions of pension beneficiaries data (1)

Country	Number of revisions	Revised years	Revisions type
Germany	83	2018-2019	4
Ireland	4	2018-2019	4
Spain	904	2006-2019	5
Malta	66	2006-2016	3,5
Netherlands	2406	2006-2019	5
Austria	14	2006-2019	4,5
Switzerland	404	2011-2019	3,4,5
Türkiye	12	2019	4
TOTAL	3893		

1) Number of revisions is calculated taking into account data for Total, Men and Women for each revised period.

8. Conclusions and recommendations

Significant improvements have been made in the relevance of ESSPROS data on PB after the approval and implementation of the three Regulations introduced in 2007 and 2008. First of all, for the users of social protection data, the information available has increased considerably.

From the quality point of view, data for all the countries are in general of good quality and useful for analytical purposes.

As the collection with 2020 as reference year was the fourteenth year for the collection of PB data, Eurostat — as a way of further improving the good quality achieved — recommends that countries should comply as fully as possible with the quality criteria laid down in the Regulation and in the ESSPROS Manual.

Moreover, in addition to the standard data/metadata, countries are requested to provide some supplementary data/information for the Pension Beneficiaries module, some are mandatory and some optional.

Taking into account the growing importance of this additional data/information for policy makers, countries are invited to make appropriate efforts to be able to transmit this data/information during future collections.

9. Annex to the Consolidated Quality Report on pension beneficiaries

All the available National Quality Reports for the ESSPROS data collection on PB with 2020 as reference year are accessible at the following links:

Member States

Belgium	Bulgaria	Czechia	Denmark
Germany	Estonia	Ireland	Greece
Spain	France	Croatia	Italy
Cyprus	Latvia	Lithuania	Luxembourg
Hungary	Malta	Netherlands	Austria
Poland	Portugal	Romania	Slovenia
Slovakia	Finland	Sweden	

EFTA countries

Iceland	Norway	Switzerland

Candidate countries

Montenegro	Serbia	Türkiye
Bosnia and Herzegovina		

Below the **list of abbreviations** used in the document:

- CS = Core system
- DC = Double counting
- MT = Means-tested
- NMT = Non-means-tested
- NQR = National Quality Report
- PB = Pension beneficiaries
- PIN = Personal Identification Number
- QI = Qualitative information
- QD = Quantitative data

Countries abbreviation

- BE = Belgium
- BG = Bulgaria
- CZ = Czechia
- DK = Denmark
- DE = Germany
- EE = Estonia
- IE = Ireland
- EL = Greece
- ES = Spain
- FR = France
- HR = Croatia
- IT = Italy
- CY = Cyprus
- LV = Latvia
- LT = Lithuania
- LU = Luxembourg
- HU = Hungary
- MT = Malta
- PT = Portugal
- RO = Romania
- SI = Slovenia
- SK = Slovakia
- FI = Finland
- SE = Sweden

- IS = Iceland
- NO = Norway

- CH = Switzerland
- ME = Montenegro
- RS = Serbia
- TR = Türkiye
- BA = Bosnia and Herzegovina

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