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# Accounting and Fiscal Reporting in EU Countries

Sagé de Clerck, Joe Cavanagh, and Mariano D'Amore

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**Sagé de Clerck, Joe Cavanagh, Mariano D'Amore***

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**ABSTRACT:** This Working Paper explores the relationship between the uptake of accrual basis of accounting in government and the use of the resultant accrual information in fiscal statistics, using the European Union (EU) as a case study. The Paper looks at the current state of accounting practices in the general government sector (GGS) of the 27 EU member states. The study of accounting practice is based primarily on two sources that provided a comprehensive picture of government accounting in all the 27 member states, namely the PwC/Eurostat survey of Accounting Maturities of EU Governments and the International Federation of Accountants and the Chartered Institute of Public Finance and Accountancy (IFAC/CIPFA) International Public Sector Financial Accountability Index. The analysis then uses data compiled by Eurostat, the EU statistical office, to explore the extent to which the accrual information is being used in the separate statistical reporting of EU member state public finances. The study draws out some general observations which may be of relevance to all countries during accounting and fiscal reporting reforms.

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| Author's E-Mail Address: | SdeClerck@imf.org; joe.cavanagh1@gmail.com; mariano.damore@uniparthenope.it |

* The author(s) would like to thank John Verrinder of Eurostat for his comments and suggestions and Maximilien Queyranne for his guidance.

WORKING PAPERS

# Accounting and Fiscal Reporting in EU Countries

Prepared by Sagé de Clerck, Joe Cavanagh, and Mariano D'Amore[1]

[1] The author(s) would like to thank John Verrinder of Eurostat for his comments and suggestions and Maximilien Queyranne for his guidance.

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**EU member states**

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

**Other**

| | |
|---|---|
| CIPFA | Chartered Institute of Public Finance and Accountancy |
| EDP | Excessive Deficit Procedure |
| EPSAS | European Public Sector Accounting Standards |
| ESA 2010 | European System of Accounts 2010 |
| EU | European Union |
| GFS | Government Finance Statistics |
| GFSM 2014 | Government Finance Statistics Manual 2014 |
| GGS | General Government Sector |
| IFAC | International Federation of Accountants (IFAC/CIPFA |
| IPSAS | International Public Sector Accounting Standards |
| 2008 SNA | 2008 System of National Accounts |
| SOE | State-Owned Enterprise |

# I. INTRODUCTION

## A. Focus of the Study

This working paper explores the relationship between the uptake of accrual basis of accounting in government and the use of the resultant accrual information in fiscal statistics, using the European Union (EU) as a case study. The note looks at the current state of accounting practices, including the adoption of accrual accounting, in the general government sector (GGS) of the 27 EU member states. Then the note explores the extent to which the accrual information is being used in the statistical reporting on EU member state public finances (herein after referred to as "fiscal statistics").

Various country evaluations of accounting reforms and the uptake of accruals, albeit somewhat outdated, reflects the stages of reforms in many countries. To date, however, there has been less attention to the potential use of new accrual accounting data for fiscal statistics. This note seeks to address this gap. The focus on the EU reflects the availability of good, standardized data in the public domain on members states' financial accounting, fiscal statistics, and the methods used to compile them. The EU therefore provides an excellent "observatory" for studying both the range of accounting practices and the extent to which accrual data is being used in fiscal statistics.

The objective of this review is to draw out general lessons rather than to support recommendations to individual member states. The experiences described in EU member states are very likely to be mirrored in countries outside the EU (albeit within national rather than EU frameworks), and thus the observations and the questions raised in this note may be also of interest to practitioners in other countries.

## B. Institutional Background

Whilst responsibility for governments' financial accounting frameworks and fiscal statistics rests with individual members states, Eurostat is responsible for setting statistical standards, overseeing data quality, collating data and publishing EU-wide comparable datasets and other reports through its website.

- Regarding statistics, Eurostat is concerned with official statistics of all types, including those concerning government finances. These comprise the Excessive Deficit Procedure (EDP) statistics as well as government finance statistics (GFS) that cover data for the general government and its subsectors. For government finances, the relevant framework is the *European System of Accounts 2010* (*ESA 2010*), which is broadly consistent with the *2008 System of National Accounts* (*2008 SNA*) of the United Nations. Within ESA/SNA, EU member states report their public finances using EDP Notification tables designed to provide a consistent framework that is used to assess whether member states comply with the relevant EU legislation. In addition, GFS data reported through the *ESA 2010* Transmission Programme should be fully consistent with the EDP data and presents data using common concepts, definitions, classifications, and accounting rules to allow comparability and integration between stocks and flows. These tables broadly align with the IMF's *Government Finance Statistics Manual 2014* (*GFSM 2014*) which is in turn also broadly consistent with the *2008 SNA*.
- Regarding accounting, since the establishment of the European Public Sector Accounting Standards (EPSAS) working group in September 2015,[2] Eurostat has also taken the lead on the EPSAS project which aims to harmonize government accounting practices across the EU member states. The group facilitates cooperation with the Commission on issues related to accounting and facilitates the exchange of information, experiences, and good practices among members. EPSAS

[2] This working group became the EPSAS Expert Group in 2021. At the time of writing, EPSAS are still under development.

are broadly based on the International Public Sector Accounting Standards (IPSAS), which are the de facto standards for public sector accounting worldwide. Those standards are primarily concerned with the application of accrual accounting, which is also being adopted globally.

# OVERVIEW OF ACCOUNTING PRACTICE IN EUROPE

The study is based primarily on two sources that provided a comprehensive picture of government accounting practices in the 27 member states, namely the *PwC/Eurostat survey of Accounting Maturities of EU Governments* and the *International Federation of Accountants and the Chartered Institute of Public Finance and Accountancy (IFAC/CIPFA) International Public Sector Financial Accountability Index.* These sources provided data on accounting practice at the end of 2018 (PwC/Eurostat) and 2020 (IFAC/CIPFA) respectively. Both sources also included provisional data for 2025 that reflected ongoing or planned reforms.

To convert these sources into a position statement as of 2023, this retrospective (2018/2020) and forward-looking (2025) data was combined to indicate countries' likely positions in 2023. Appendix I describes the two main sources. This section discusses how the likely 2023 positions can be used to group member states into clusters of accounting practice.

## A. Comparison of PwC/Eurostat and IFAC/CIPFA Surveys

Table 1 compares PwC/Eurostat and IFAC/CIPFA Surveys to show, for each member state, the basis of reporting and accounting maturity, grouped by accounting maturity. Note here that the accounting maturity scores are provided for both GGS and central government, whereas the reporting basis is for central government only.

**Table 1: Comparison of Accounting Maturity and Basis of Reporting[1]**

| Accounting maturity score | | Country | Reporting basis |
|---|---|---|---|
| GGS | Central Government | | Central/Federal Government |
| < 40% | 13% | Greece | Partial accrual |
| | 24% | Malta | Cash |
| | 23% | Germany | Cash |
| | 37% | Cyprus | Cash |
| | 39% | Italy | Partial accrual |
| | 23% | Luxembourg | Cash |
| > 40% < 70% | 38% | Netherlands | Cash |
| | 57% | Ireland | Cash |
| | 72% | Slovenia | Partial accrual |
| | 66% | Croatia | Partial accrual |
| | 59% | Portugal | Partial accrual |
| | 71% | Romania | Partial accrual |
| | 77% | Austria | Accrual |
| | 71% | Hungary | Partial accrual |
| | 78% | Slovakia | Partial accrual |
| | 72% | Poland | Partial accrual |
| | 78% | Belgium | Accrual |
| > 70% | 76% | Bulgaria | Partial accrual |
| | 79% | Denmark | Accrual |
| | 78% | Spain | Accrual |
| | 77% | Finland | Accrual |
| | 83% | Czech Republic | Accrual |
| | 84% | Sweden | Accrual |
| | 91% | Lithuania | Accrual |
| | 90% | France | Accrual |
| | 88% | Latvia | Accrual |
| | 91% | Estonia | Accrual |

*Source: PwC, Updated accounting maturities of EU governments, 2020; IFAC/CIPFA, International public sector financial accountability index, 2021.*

*[1] Partial accrual in this context refers to some transactions recognized on cash basis and some on an accrual basis.*

There is a clear relationship between accounting maturity and reporting basis, albeit with variations:

- Four of the six countries with the lowest accounting maturity scores (<40 percent) use cash as the reporting basis in central government, with Greece and Italy reporting on partial accrual;
- Seven of the 11 countries with 40-70 percent accounting maturity report on a partial accrual basis, with two on cash and the other two on accruals; and
- All the countries in the highest accounting maturity scores (>70 percent) use accrual reporting except for Bulgaria (partial accrual).

In general terms, the IFAC/CIPFA data provide a more dynamic picture than the PwC/Eurostat analysis, with more countries appearing to forecast progress towards accrual. The IFAC/CIPFA data suggests that

nine countries are planning to change their reporting basis at central government level by 2025, compared to the five countries reported by PwC/Eurostat as planning major changes in accounting maturity at central government level by the same date.[3]

The data in the two surveys are largely consistent, although there are some differences:

- some countries are not forecast to achieve significant improvement in accounting maturity, but are expected to shift from partial accrual to accrual (Slovenia, Romania, Hungary, Slovakia, Poland) or even from cash to partial accrual (Ireland) at central government level; and
- inconsistent information for Greece and Italy, that are forecast to make significant steps ahead in accounting maturity but not in terms of reporting basis at central government level (they would remain on partial accrual).

These inconsistencies may reflect the different points in time at which the data were collected, or the different methods of collection (IFAC/CIPFA is largely self-reporting; the PwC/Eurostat data is questionnaire-based but validated to a degree).

## B. Cluster Analysis – Suggested Groupings

To convert these two principal sources into a position statement as of 2023, the retrospective (2018/2020) and forward-looking (2025) information was combined to indicate countries' likely positions in 2023. For countries without significant progress forecast for 2025, it can be assumed that the 2018/2020 picture still provides an updated representation of their current status. In contrast, countries forecast to significantly progress to accruals can be expected to be "on the way" between their 2018/2020 starting base and their destination for 2025.

The resulting classification of country positions in 2023 should be considered as indicative and would require additional analyses before drawing any definitive conclusions about their current state of play, since some countries might be making faster or slower progress than forecasted. Additionally, for those countries at an early stage of accrual reform, some projects of transition to accruals may have started in nmore recent years and might spread beyond 2025. These developments may not be fully mirrored by the two principal sources. Where evidence of such projects exists, this may justify expectation of major changes occurring in the mid-term, as a significant element of the country position at 2023.

Based on the above criteria, the 27 EU member states were grouped into four clusters which broadly characterize their accounting practices in 2023. The clusters and the criteria for their classification are presented in Table 2. Appendix II discusses these clusters, and some country examples in more detail.

[3] Greece, Italy, Cyprus, Malta, Portugal – see Tables 3 and 19 of the PwC/Eurostat Survey.

**Table 2: Clusters of Accounting Practice in 2023**

| | CASH COUNTRIES[1] | ON THE WAY TO ACCRUAL | WELL ON THE WAY TO ACCRUAL | MATURE ACCRUALS |
|---|---|---|---|---|
| **Country** | • Germany<br>• Netherlands | • Cyprus<br>• Greece<br>• Ireland<br>• Italy<br>• Luxembourg<br>• Malta | • Austria<br>• Belgium<br>• Croatia<br>• Hungary<br>• Poland<br>• Portugal<br>• Romania<br>• Slovakia<br>• Slovenia | • Bulgaria<br>• Czech Republic<br>• Denmark<br>• Estonia<br>• Finland<br>• France<br>• Latvia<br>• Lithuania<br>• Spain<br>• Sweden |
| **Criteria** | • *low/medium accounting maturity score (2018) for GGS (>0%; <70%)*<br>• *cash basis of reporting at central/federal government level (2020)*<br>• *no major change foreseen* | • *low/medium accounting maturity score (2018) for GGS (>0%; <70%)*<br>• *cash (or partial accrual) basis of reporting at central government level (2020)*<br>• *major shift to accrual foreseen for 2025 and/or beyond* | • *medium accounting maturity score (2018) for GGS (>40%; <70%)*<br>• *accrual or partial accrual basis of reporting at central/federal government level (2020)*<br>• *Some improvement foreseen for 2025* | • *high accounting maturity score (2018) for GGS (>70%)*<br>• *accrual basis of reporting at central/federal government level (2020)*<br>• *no or little improvement foreseen for 2025* |

*Source: IMF staff team*

# ACCRUAL ACCOUNTING AND FISCAL STATISTICS

This section of the report focuses on two aspects of fiscal statistics in Europe. Drawing on the potential benefits of accrual accounting (see Appendix III), fiscal statistics in the EU are already presented on an accrual basis. The focus is therefore on two key questions:

- Are EU member states using accrual accounting data that became available due to accounting reforms in their fiscal statistics, and thus obtaining the benefits of more reliable and more efficient fiscal statistics?
- Are EU member states using the new accounting data to develop or explore new fiscal statistics, and specifically the scope for developing and using the public sector balance sheet?

## A. Using Accrual Data in Fiscal Statistics

### Statistical reporting by EU member states

Member states are required by EU laws and regulations to produce data on government finances as part of two separate, but linked sets of fiscal statistics used for fiscal monitoring in Europe:

- The EDP which forms part of the EU's economic governance, and which focuses on government deficits and debt.[4]

[4] The EDP is established in the Treaty on the Functioning of the European Union (TFEU) and specified in the Stability and Growth Pact.

(continued…)

- Reporting for the purposes of Government Finance Statistics (GFS) as part of member states' national accounts under the *ESA 2010*[5] which in turn is broadly consistent with the *2008 SNA* of the United Nations.[6] GFS includes a broader range of data, including balance sheet data on assets and liabilities.[7]

Both EDP and GFS data are compiled and presented for the GGS, with its four sub-sectors (central government, state governments, local governments, and social security funds). GFS data are produced on an annual basis and—at a lower level of detail—on a quarterly basis. EDP data are annual data, updated twice a year.

Eurostat is the coordinating body for the design and quality assurance of EU fiscal statistics while national statistical bodies remain responsible for producing and reporting their national data to Eurostat. Eurostat provides guidance on data compilation methods, through manuals, occasional papers on specific statistical issues and staff visits. Eurostat validates country data, once received, and may require further explanation or amendments before submitting EU-wide fiscal statistics to the European Council. Eurostat carries out periodic visits to member states to review data compilation practices, to ensure consistency of statistical treatments and country compliance with the guidance and requirements.

Figure 1 outlines the process for producing fiscal statistics and reports in the EU. The process in member states usually starts with data coming from accounting or other financial reporting systems. This raw accounting data then needs to be converted into statistical data through the addition of non-accounting data, which are estimates where accounting data is not available, and other adjustments to reflect the differences in the way that accountants and statisticians treat some classes of transaction. This results in a set of data for GFS/ESA and EDP purposes, which in turn are used to populate standard statistical reports (GFS statements and EDP tables). All this work is usually the responsibility of a country's statistical agency.[8] Once ready, data or reports are passed to Eurostat for quality assurance and collation, before submission to the Council.

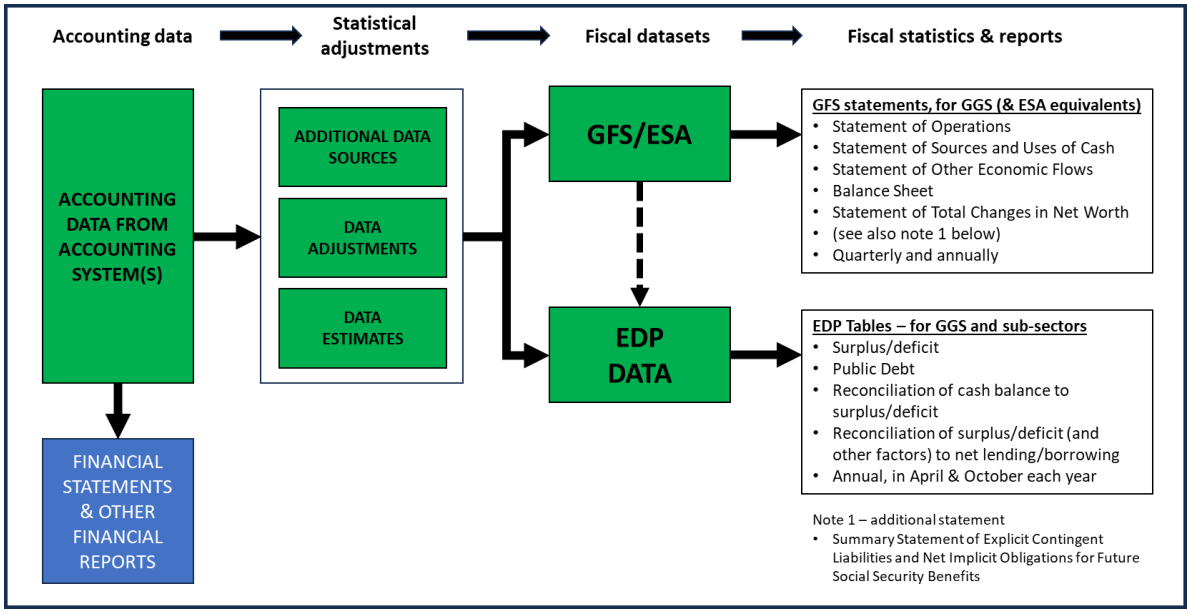
[5] Note that whilst there are some specific EU reporting formats under ESA, which are different from the standard GFS reports, there is underlying consistency between ESA and GFS data compilation methods.

[6] *ESA 2010*, the latest version. is broadly consistent with the 2008 SNA regarding definitions, accounting rules and classifications. It nevertheless incorporates certain differences, particularly in its presentation, which is more in line with its specific use within the EU.

[7] European GFS, including the statistics for the EDP, are produced in accordance with Regulation (EU) 549/2013 of the European Parliament and of the Council on the European system of national and regional accounts (ESA 2010), the EU manual for national accounts. It is supplemented by further interpretation and guidance from Eurostat, in particular the Manual on Government Deficit and Debt.

[8] Sometimes in collaboration with the Ministry of Finance and/or the Central Bank.

**Figure 1: Overview of the System for Producing Fiscal Data and Reports**




*Source: IMF staff team.*

*Note: The dotted line from GFS/ESA to EDP indicates the interlinking of the two datasets – EDP uses a sub-set of GFS data and should be consistent in underlying content (but different in presentation) – in practice there can be remaining methodological differences.*

### EU fiscal statistics – source data

Standard reporting formats for EDP and GFS require the final outputs to be presented on an accrual basis irrespective of the basis of recording of the source data. Both EDP and GFS reporting are based on standard reporting formats or templates issued by Eurostat. In both EDP and GFS, the basis of reporting is accrual, in line with *ESA 2010* and *GFSM 2014*, although the scope of reporting varies:

- For EDP, standard tables cover the last four years and forecasts for the current year, with submission deadlines of 1 April and 1 October each year. The focus is on surplus/deficit (on an accrual basis); a reconciliation between this accrual surplus/deficit with the reported working balance of the budget (surplus/deficit) reported to the national Parliament (usually a cash figure); and a reconciliation of the accrual surplus/deficit to the change in public debt.
- GFS data is presented quarterly and annually. Quarterly GFS, to be presented within three months of the quarter end, includes revenue and expenditure, surplus or deficit, government financing and debt; and a financial balance sheet is also included. Annual GFS includes all the above, but the balance sheet is extended to also include non-financial assets.

In practice, most fiscal statistics are compiled from source data that is initially available on a cash or mixed[9] basis and adjusted to produce the required accrual statistical presentation. Table 5 shows the initial bases of source data as reported by each member state in their EDP statistics, by sub-sector of GGS, for the 2023 financial year. Most central government is cash-based; most state government (where it exists) is mixed cash-accrual; and local government and social security show a mix of all three approaches. Only one country (Spain) reports using accrual source data across all four sub-sectors of the GGS.

[9] "Mixed" refers to a range of situations between pure cash and full accruals; these may include revenue on a cash basis but expenditure on an accrual basis; accruals may cover some revenue or expense and not others; or some entities on cash and others on accrual; or a mix of all these.

The basis of EDP reporting shown in Table 3 is indicative rather than conclusive as to the use of accrual data as the primary source for fiscal statistics. The picture presented in the table holds true for fiscal statistics generally, although with some qualifications to be borne in mind:

- Three countries (AT, DK, EE) could reasonably claim to be mostly based on accrual sources, despite self-reporting as mixed or cash, making four in total when added to the one country (ES) self-reporting as wholly accrual based.
- This table is based on EDP data sources for their reported working balance, which may be dictated by budgetary rules or conventions, but member states also report on the data sources for their separate computation of the ESA (or GFS) statistic for net lending/borrowing. In most cases, country EDP inventories show working balances and net lending/borrowing using the same data sources. In a few cases, however, the working balance is based on cash or mixed data sources whilst the Net Lending/Borrowing data is sourced from accruals data.
- More generally, the bases reported by member states in the table reflect the principal data source for their statistics whereas in reality, they often use a mix of sources for their quarterly or annual fiscal statistics and the reported basis; the primary source is most often budget reporting systems, supplemented by financial statements, surveys, banking data, modelling, estimates, and other miscellaneous sources.

Some member states that have rolled out accruals to all or most of the GGS still use the cash-based approach to compiling their fiscal data. As reported in Part I of this report, EU member states have made variable progress in implementing accrual accounting across the GGS. As can be seen in Part II there are 19 member states that have already achieved significant accounting maturity—that is, are well on their way or already at the end of their transition from cash to accrual accounting. These countries are highlighted in yellow in the first column of Table 3. Nonetheless most have continued to use the traditional cash-based methods for fiscal statistics rather than rely on their new accrual accounting data as the primary source for their fiscal data. This does not mean that it is necessarily a simple matter for them to simply “switch on” accrual-based reporting—the remaining obstacles may still be significant. In the next paragraph we discuss some of the reasons for sticking with cash-based sources; and in a later section, we examine the various building blocks or components that a national accounting system or framework needs to have if it is to be capable of providing more direct support to accrual-based fiscal statistics.

**Table 3: Basis of EDP Reporting of Working Balance by GGS Sub-sector, 2023**

| | Subsectors of GGS | | | |
|---|---|---|---|---|
| **Member State** | **Central Government** | **State Government** | **Local Government** | **Social Security** |
| **AT** | C | M | M | A |
| **BE** | M | M | A | A |
| **BG** | C | * | C | C |
| **CY** | C | * | M | M |
| **CZ** | C | * | C | A |
| **DE** | M | M | M | M |
| **DK** | M | * | M | A |
| **EE** | M | * | A | A |
| **EL** | C | * | C | M |
| **ES** | A | A | A | A |
| **FI** | M | * | M | M |
| **FR** | C | * | A | A |
| **HR** | C | * | M | M |
| **HU** | M | * | M | M |
| **IE** | C | * | A | C |
| **IT** | C | * | C | C |
| **LT** | C | * | C | A |
| **LU** | M | * | M | A |
| **LV** | C | * | C | C |
| **MT** | C | * | A | * |
| **NL** | C | * | A | A |
| **PL** | C | * | C | M |
| **PT** | C | * | C | C |
| **RO** | C | * | C | C |
| **SE** | C | * | A | M |
| **SI** | C | * | C | C |
| **SK** | C | * | C | C |
| **EU 27, totals** | C-19<br>M-7<br>A-1 | M-3<br>A-1 | C-11<br>M-8<br>A-8 | C-8<br>M-8<br>A-10 |
| **Clusters 3 & 4[1]** | **Key:** C – Cash; M – Mixed; A – Accrual; * - Not applicable | | | |

*Source: Eurostat EDP tables for April 2024, and countries' own reporting of source data.*

*[1]: Cluster 3 and 4 refer to the countries assessed as being well on the way to accruals or largely completed their accruals reforms (see Part II of this Report).*

There are several reasons that could explain why member states use a cash-based or mixed approach to fiscal statistics compilation:

- The first data generated for each financial year are forecast data which are assembled from budget data, and all but a few member states' budgets are prepared on a cash basis. Once a cash-based forecast is used, it is easier to report subsequent outturn using the cash-based data

from budget execution systems—thus avoiding different reporting methods for forecast and outturn.
- Countries' in-year financial reporting systems may be more geared towards budget execution and budget reporting, thus reflecting their budget basis, whilst the accrual-based financial reporting systems may operate to different timescales and periods (e.g., annually) that are not best suited to fiscal reporting needs.
- Countries may have long-standing legislative reporting requirements that may require extensive legal reforms that are not easily changed.
- EDP and GFS data are for the GGS, but not all sub-sectors of the GGS may be using accrual accounting, or all institutions within a sub-sector—which means that at least part of the data is necessarily cash-based.
- Statisticians use standard techniques for converting cash data into accruals, not just to make up for the absence of accrual data but also to substitute for accrual data to ensure consistency in valuation and calculation methods.
- The current reporting arrangements are long-standing and have been developed and refined over many years—often statistical authorities are reluctant to discard cash-based methods with which they (and Eurostat) are very familiar and satisfied.

For brevity's sake, in the remainder of this section we use "cash-based" to refer to systems which use primarily cash data.

**Adjustments needed to convert cash source data to accrual fiscal statistics**

Fiscal data compilers use a range of techniques to convert cash to accrual data. To convert cash-based data to accrual data, member states' statistical agencies (and statisticians in countries outside the EU) use a range of techniques:

- cash-based expenditure and non-tax revenue data can be converted to accrual by adjusting for changes to creditor and debtor balances;
- tax-revenue cash data can be converted to accrual by using a time-adjusted basis to take account of typical lags in tax collection (so if the typical collection cycle is two months, combine the tax receipts data for the last 10 months of the year with the first two months of the following year);
- debt data based on face value or cash can be adjusted to take account of premiums and discounts – as well as any repayments of principal and accrued interest, paid or not - to produce an accrual value;
- the use of actuarial data or modelling for pension liability calculations, in lieu of annual cash-flow data; and
- fixed asset data can be calculated or modelled based on the perpetual inventory method – i.e., the value of new capital formation each year (and then adjusted for typical asset life cycles and depreciation models, as well as adjusted for current market values). This method ensures consistency with the calculation of capital items for the non-government sector, as part of SNA. It also overcomes the deficiency of accrual-based data from financial statements which are often based on historic cost or other techniques which do not align with the GFS/ESA requirement for using current market prices.

In addition, fiscal data compilers must also adjust for classification differences and other items which may be treated differently between accounting and statistics. Accounting and statistics use much of the same language and concepts, but there are some differences which must be considered by fiscal data

compilers.[10] These adjustments can occur whether cash or accrual source data are used. The main ones are:

- Reclassifying transactions and balances from an accounting presentation to a GFS- or ESA-based presentation, if this has not already been done through a harmonized statistical and accounting system which can generate both presentations from the same dataset;
- Removing any provisions (such as for bad debts, or expenditures) from accounting data, because provisions, other than for standardized guarantees, are excluded under statistical reporting;
- Adding data for sub-soil assets such as mineral reserves, which are included under GFS and ESA but usually excluded under current accounting standards;
- Removing some data on public service pensions liabilities, where these are included in financial statements, as some types of pension schemes are excluded from GFS main tables and reported separately.[11]
- Eliminating or adjusting some specific items where the economic nature is not as first appears, for example reclassifying some equity injections or loans to SOEs as capital transfers, or reclassifying SOE super-dividends as capital drawdowns.

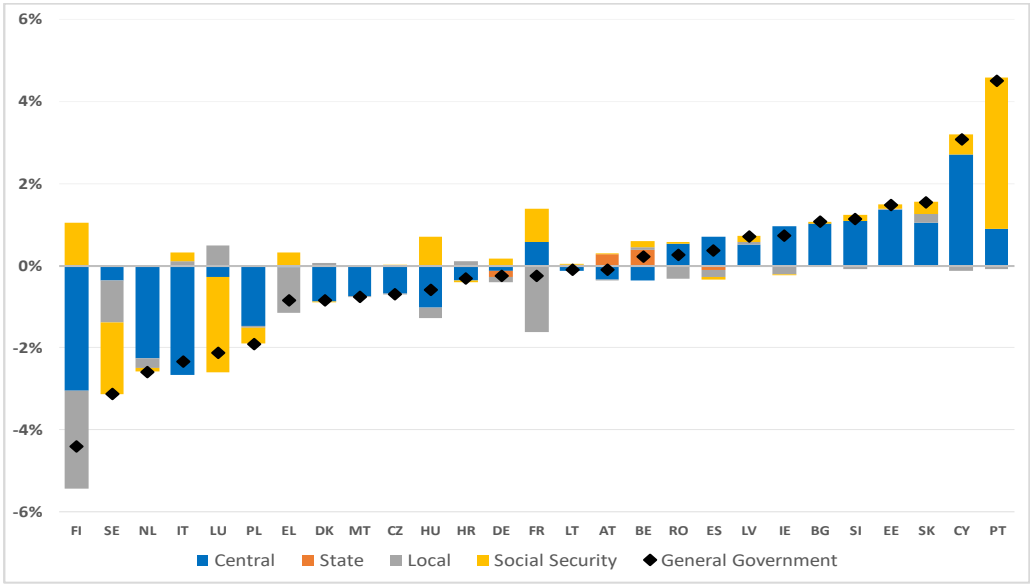
Adjustments from cash to accrual can be material. The adjustments between the country working balances (surplus or deficit as reported on a national basis, usually on a cash basis) and the standardized net lending/borrowing according to statistical standards (on an accruals basis), as reported for 2023 in the EDP tables of April 2024, were up to 4.5 per cent of GDP, with adjustments upward and downward (Figure 2). The comparable adjustments in the data reported for 2022 in the EDP tables of April 2023, were slightly higher.

These GGS adjustments are composed of adjustments at sub-sector level. The GGS adjustments shown in Figure 2 are the result of adjustments for each sub-sector of the GGS. For most countries the largest component is the adjustment to central government (the blue part of each column), reflecting the greater proportion of public resources involved at that level; but in some countries the adjustments for social security (the yellow section of each column) and, to a lesser degree, for local government (the grey sections) are also significant. The overall adjustment may comprise a mix of upward revisions in some sub-sectors and downward revisions in others (France's 2023 result is a particularly notable in this respect).

[10] For example, see the IPSAS–ISS Alignment Dashboard which tracks differences between IPSAS and GFS, available from the IFAC website (at www.ifac.org). The tables list different types of difference in the reporting frameworks: differences which can be accommodated within existing accounting standards; those which would require new standards; and those which are fundamental and unlikely to disappear.

[11] See also Box 1 on page 14 of *Public Sector Balance Sheet Database: Overview and Guide for Compilers and Users*, IMF working Paper 2020, by Miguel Alves, Sagé De Clerck, and Juliana Gamboa-Arbelaez

**Figure 2: Adjustments between Working Balance and Final Net Lending/Borrowing Statistics 2023 (as a percent of GDP)**




*Source: Eurostat EDP tables of April 2024.*
*Note: An upward revision means that the eventual accrual figure for net lending/borrowing is higher than the working balance originally reported; a downward revision means the opposite.*

Accrual-based fiscal statistics appear to require less adjustment. Countries' EDP tables provide relatively detailed reconciliations between working balance and net lending/borrowing; and show the reasons for the differences or adjustments that need to be made. In theory, it might be expected that accrual-based statistics based on accruals source data would require less adjustments.[12] This appears to be borne out in practice. The EDP tables categorize adjustments into seven types (see Box 1). An analysis of the adjustments or reconciliations by each type for 2022 and 2023 data,[13] set out in detail in Appendix IV of this report, found the following:

- Tables based on cash or mixed data showed all seven types of adjustments, although individual countries and sectors can have different mixes.
- Tables based on accruals sources have fewer adjustment types, being mainly in respect of institutions outside the reported working balance (i.e., outside the budget) and "other adjustments" which include unavoidable differences between accounting and statistical treatments.[14]

Fewer adjustments should, in theory, require less effort to compile and to validate fiscal statistics. The types of adjustment listed in Box 1, require additional work, either to separate out or reclassify data from existing sources, to substitute or generate data with estimates or modelling data, or to obtain or corroborate data using additional data sources. As a rule, therefore, it would be hard to argue with the proposition that less adjustments mean less work—both in compiling the data and validating it, but it is not possible to say with any certainty that this means that using accrual data is therefore less work-intensive and thus more efficient than cash-based methods. This is a question worthy of further study.

[12] In that an accrual-to-accrual conversion or reconciliation might be expected to have less adjustments than a cash-to-accrual conversion.

[13] The analysis looked at the reasons for any adjustment in any sub-sector of the GGS which was greater than 1% of GDP. It then differentiated each country and GGS sector by reporting basis.

[14] The only significant exception found in this analysis was for French and Swedish local governments, where adjustments of -1.7% and-1.4% of GDP were made to reflect capital expenditure excluded from the original working balance, thus reflecting budget practice rather than any innate issue with the underlying data.

**Box 1: The Types of Adjustment Between Working Balance and Net Lending/Borrowing**

- financial (financing) transactions needing to be subtracted from the working balance
- non-financial transactions needing to be added or subtracted from the working balance
- adjustments for the difference between interest accrued and paid
- adjustments for changes in accounts payable
- adjustments for changes in accounts receivable
- adjustments for institutions outside the budget or reported working balance
- other adjustments (including essential methodological differences between accounting and statistical treatments)

*Source: EDP tables, standard categories of adjustment to tables 2A-2D*

In this cash-based fiscal reporting, the principal use of accruals data and financial statements has been to provide corroboration for fiscal statistics rather than to act as the primary data source. For example, Eurostat have used financial statements to corroborate transfers and capital injections to public enterprises, but the general lack of country financial statements at GGS level means that such corroborations typically occur at the level of entity or institutional unit. At country level, EDP inventories show that financial statements are more often used to supply or corroborate specific items within statistical accounts rather than as the primary source for fiscal statistics. The exception to this is those countries where accrual accounting is well established across the GGS and there are harmonized systems for collecting such data (AT, EE, ES, DK).

Regardless of the source data, financial statistics are also subject to internal consistency checks. One high-level check on fiscal data, whether it is produced from cash or accrual data as its primary source, is the reconciliation between stock-and-flow data for financial assets and liabilities. Because stock-and-flow data for financial assets (and sometimes liabilities) typically come from different sources,[15] there is usually a difference or "statistical discrepancy" between the annual surplus/deficit on the one hand, and the net change in financial assets and liabilities on the other. In the EU, such discrepancies have historically been very small (0.1% of GDP or less for the EU-27, although slightly higher numbers are possible for individual member states – over time, country statistical discrepancies have reduced). This level of discrepancy suggests that the prevalence of cash-based sources does not have a large impact on data reliability, at least as far as transactions in financial assets and liabilities are concerned.[16]

## B. Reporting on EU Member State Balance Sheets

### Coverage of stocks and flows in EU fiscal statistics

In discussing the coverage of stocks and flows in fiscal statistics, it makes sense to focus on GFS reporting, as EDP reporting uses a subset of GFS.[17] The full set of data which is required for GFS and ESA reporting purposes comprises:

[15] Data on government revenue and spending coming from government accounting or budgetary reporting systems; and data on financial assets and liabilities usually coming from the Central Bank, sometimes with the national debt agency.

[16] Technically, it could be that any errors are self-compensating (i.e., that an overstatement in expense, is matched by a similar overstatement in revenues, or that the components of the net change in assets and liabilities have similar matching but opposite errors).

[17] EDP statistics generally use just some of this GFS data – specifically data on the accrual-based surplus or deficit, net lending or borrowing, public debt (which is a subset of liabilities) and the various items needed to reconcile these

- An operating statement which shows revenue, expenditure, and surplus/deficit (sometimes referred to as “above-the-line”);
- A statement of net financing, which should reconcile with the surplus/deficit from the operating statement (sometimes referred to as “below-the-line”); and
- A balance sheet of assets and liabilities

Member states’ quarterly GFS data are complete for the operating statement, financing and for financial assets and liabilities. All member states have been able to provide quarterly data for these parts of GFS reporting within the timetables set (i.e., within 3 months of the quarter end). Note that new figures are often initially provisional since these initial data may be subject to subsequent amendment when updated and final outturn data become available.

In contrast, data for non-financial assets (NFA) are required on an annual basis only, for some assets only, and with a time lag of up to two years, and compulsory reporting covers only fixed assets. Table 4 shows how member states compare against the timetable and the asset classes they report within NFA, based on the annual GFS datasets for EU member states released in April 2024. A few members states have not reported the minimum requirements; most report on mandatory items only; a few go beyond the minimum to report a wider set of NFA; and around half report earlier than required.

**Table 4: Country Reporting of NFA in GFS, by Asset Classes (Latest data available)**

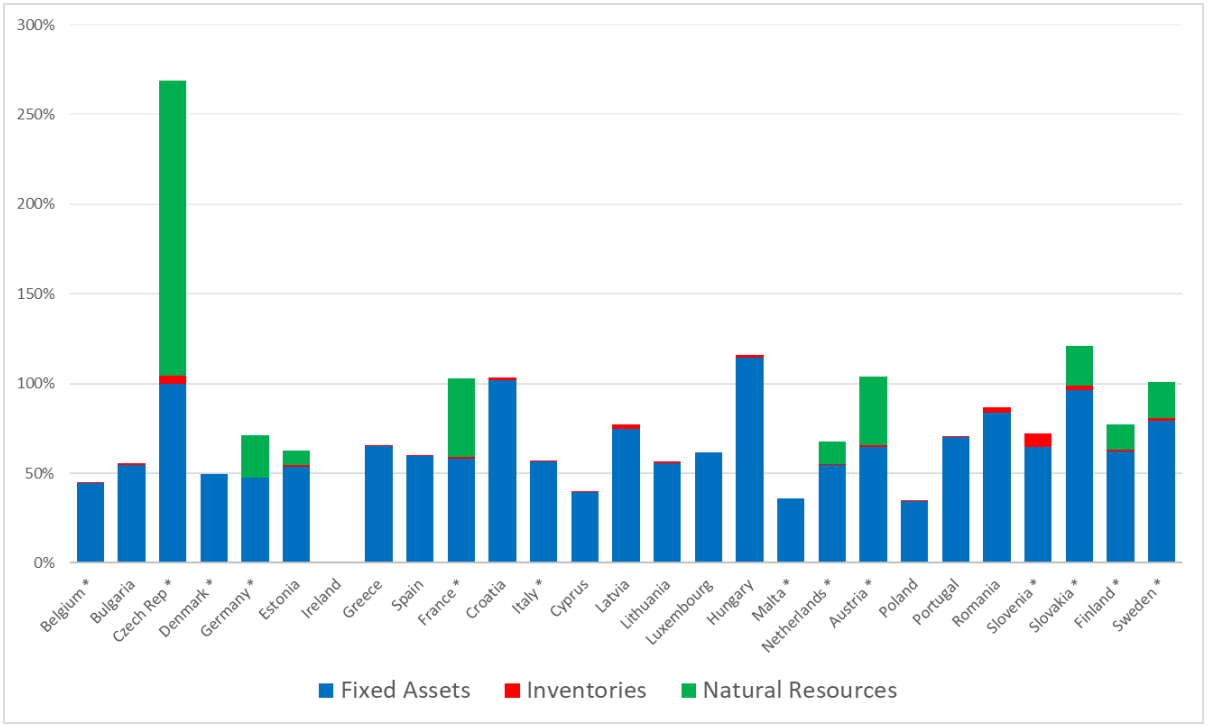
| **By latest annual data provided (2021 being the latest year that is required in April 2024)** | | | |
|---|---|---|---|
| **Last year for which NFA reported** | **No** | **Member states** | |
| None | 4 | BG, ES, HR, IE | |
| 2013 | 1 | EL | |
| 2021 | 9 | CY, EE, HU, LV, LT, LU, PL, PT, RO | |
| 2022 | 13 | AT, BE, CZ, DK, DE, FI, FR, IT, MT, NL, SI, SK, SE | |
| **By which assets classes reported (with only fixed assets being required)** | | | |
| **Elements of NFA reported** | **Line Items** | **No** | **Member states** |
| None | | 4 | BG, ES, IE, HR, |
| Fixed assets only | 41 | 18 | AT, BE, CY, DK, DE, EE, EL, HU, IT, LT, LU, MT, NL, PL, PT, RO, SI, SK |
| Fixed assets + other produced assets | 41, 42 | 2 | FI, LV, |
| Fixed assets + other produced assets + non-produced assets | 41-43 | 3 | CZ, FR, SE |

*Source: Eurostat website, April 2023 Annual GFS datasheet*

A similar pattern of coverage is evident in underlying Eurostat databases. GFS data for 2023 were disseminated in April 2024. Eurostat’s underlying database of fiscal statistics, accessible via the Eurostat website, is constantly updated (for new data and revisions to old data), and thus can show a different picture from the snapshot provided by the annual GFS data. However, an analysis of the live EU database (in May 2024) shows a similar pattern of coverage—a few member states do not provide the required data; most member states report the mandatory elements only; and some member states exceed the requirements by reporting other asset classes or reporting earlier than required. For example, Figure 3 shows the classes of NFA reported by members states in May 2024, as a percentage of GDP. Half of member states report data at end 2022, and the rest at end 2021. Most (except Ireland) reported fixed assets; almost all reported inventories, with low values as might be expected; and nine countries reported

natural resources (land and mineral reserves), some with values much higher than others. There was limited or low value reporting of other non-financial assets, such as intangibles and valuables.[18]

**Figure 3: NFAs Reported to the Eurostat database by EU Member States (as a percent of GDP, 2021 or 2022)**




*Source: Eurostat database, as of May 2024.*

*Note (1) By May 2024, around half of members states had provided data for end-2022—these are shown with an asterisk in the graphic; other states reported their data at end-2021.*

*(2)There was minimal or low value reporting of the other classes of NFA (valuables; intangibles)*

There is a separate statistical reporting system for social security and other government pension liabilities, the great majority of which are not included in GFS/ESA reporting. Both social security and government employee pension liabilities are required to be reported to Eurostat, starting from 2015, within a two-year timetable, on a three-yearly cycle (e.g., end-2015 data by end-2017). Member states can report more often if they wish. The most recent update (to end 2021) was reported in April 2024. Member states vary in the extent to which they rely on private sector provision for pension and social security provision—in 2021, four out of 27 EU countries private occupational pension insurance generates over 10 percent of total social pension entitlements. In practice, therefore, the bulk of pension and social security provision is by government.

Under ESA, government pension liabilities are divided into two types: non-funded “pay-as-you-go” schemes, whose accumulated liabilities are reported outside the core national accounts; and all other government pension schemes, which are included in core national accounts. Table 5 shows the data for such liabilities at end-2021.

[18] Most countries’ GFS data mirrors the data in the Eurostat database, but this is not the case for BG, ES and HR who report NFA in the Eurostat database but not in GFS. Other countries (AT, DE, EE, FI, NL, SK) report significant natural resources in Eurostat but not in GFS.

**Table 5: Public Service and Social Security Pension Liabilities Reported by EU Member States at end-2021**

| | Type of schemes | Value at end-2021 (€bn) |
|---|---|---|
| | **Non-funded Pay-As-You-Go Schemes: Not in core ESA accounts (but in a supplementary table)** | |
| 1 | Defined benefit schemes for general government employees[1] | 4,793 |
| 2 | Social security pension schemes | 45,342 |
| | **Other schemes (funded): In core ESA accounts** | |
| 3 | Defined contribution schemes of general government | 6 |
| 4 | Defined benefit schemes for general government employees classified in general government | 49 |
| | **Grand total** | **50,190** |

*Source: Eurostat website, pensions database, 2021 – except Poland which is 2018 data*

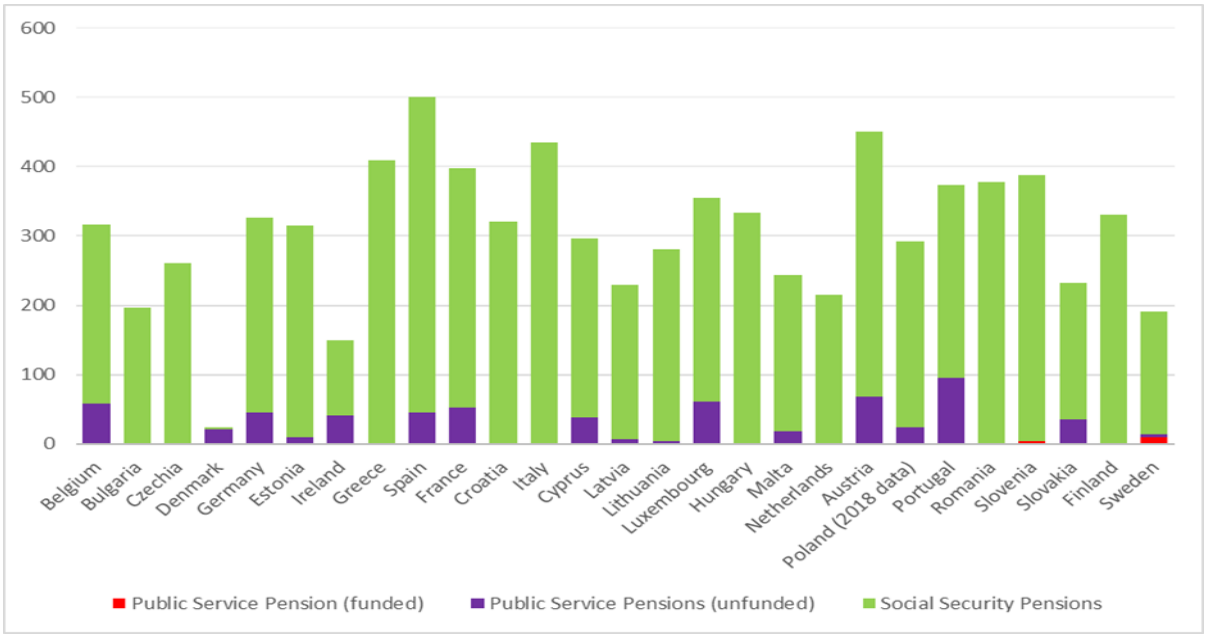
*[1] For GFS purposes these employment-related pensions are included in liabilities.*

*Note: These data may be an underestimate – see preceding paragraph*

As shown in Table 5, pension and social security liabilities are significant, around €50tn at end-2021, with the vast majority (90 percent) being social security pension entitlements reported outside the core ESA accounts. This total may be an underestimate: nine member states reported nothing under type 1 (unfunded public service pensions). Note that these totals include pension liabilities for government employees (types 1, 3, 4) and a much greater value represented by pensions for the general population through social security schemes (type 2).

These pension liabilities represent significant calls on future resources of government. For example, public service pension liabilities at end 2021 were reported at up to 95 per cent of GDP (Portugal), whilst social security pensions averaged over 250 percent of GDP and reached over 450 percent of GDP in Spain (Figure 4). These numbers are significant, when judged against typical figures for public debt as a proportion of GDP. However, the two types of pension liability are different in nature. Public service pensions are based on government employees' employment contracts, based on actual or notional employee/employer contributions, and governments only change terms and conditions infrequently, and rarely in respect of past service. In contrast, the terms and conditions of social security pensions are more likely to be changed in the light of economic circumstances. For these reasons, only the government employment-related pensions (types 1, 3, 4) would be recognized as a liability under accounting standards and GFS, whereas social security pension liabilities (type 2) are excluded from the accounts.

**Figure 4: Pension and Social Security Liabilities Reported by EU Member States (percent of GDP, 2021)**



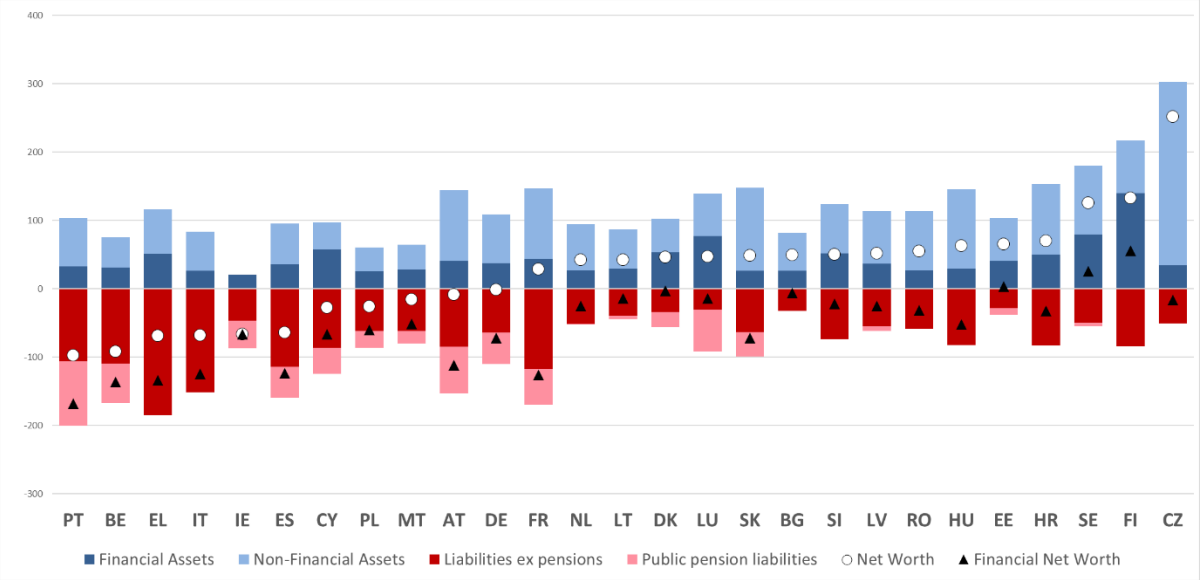

*Source: Eurostat website, pensions database*
*Note: Poland data is for 2018*

### Assembling balance sheets for EU member states

The strengths and weaknesses of current EU balance sheet data are demonstrated in the balance sheets for the GGS of all 27 EU members, in Figure 5. The Figure combines the most recently annual GFS data for financial assets and liabilities (for 2023), with the most recently available (i.e., 2021 or 2022) non-financial assets data from the Eurostat database (at May 2024) with the most recent pensions data (at end-2021), to provide a snapshot of the balance sheets for the General Government of all 27 EU member states.[19]

[19] As such, this data is more complete and up to date than the PSBS database on the Fund website, which does not include some EU members and has earlier data than those presented here for other member states.

**Figure 5: General Government Balance Sheets for EU Member States, (percent of GDP), in order of Net Worth**




*Source: IMF Staff, based on Eurostat databases*

*Note: Financial assets and liabilities data at end-2023; non-financial assets data at end-2021 or 2022; and pensions liability data at end-2021)*

The Figure is interesting for what it shows in terms of the relative financial position of each EU member state, which range from a large negative Net Worth of 100 percent of GDP (Portugal and Belgium, on the left of the chart) to a large positive Net Worth of up to 250 percent of GDP (Czech Republic and others, on the right). The Figure also demonstrates how different classes of assets and liabilities contribute to these overall positions, with differences in the degree to which financial and non-financial assets contribute to Net Worth, as well as the make-up of liabilities.

However, the Figure also demonstrates the shortcomings of current data, with some member states not reporting parts of their balance sheet, and also variations in other classes of asset and liability that may represent genuine differences in financial position or may be the result of differences in reporting methods. The data for financial assets and liabilities can be considered more reliable, being subject to greater internal checks. However, nine countries report no liabilities for unfunded public service pensions liabilities; and the data for non-financial assets reflect a mixed picture of reporting of natural resources. More generally, the coverage of the data is for the GGS and therefore excludes the assets and liabilities of the commercial public sector—the commercial public sector can be an area of significant fiscal risk and, as discussed below, worth including in such balance sheet analyses.

Neither accounting nor fiscal statistics in the EU have advanced to the stage where the full range of analyses and views are possible at this point. Balance sheet data is not yet sufficiently comprehensive, reliable, standardized, or timely enough to support EU-wide views or analyses.

However, this does not preclude the scope for such analyses at the level of an individual member state – the fuller the application of accrual and international accounting or statistical standards, the more scope there will be for useful analysis.

**Balance sheet analysis – international experience**

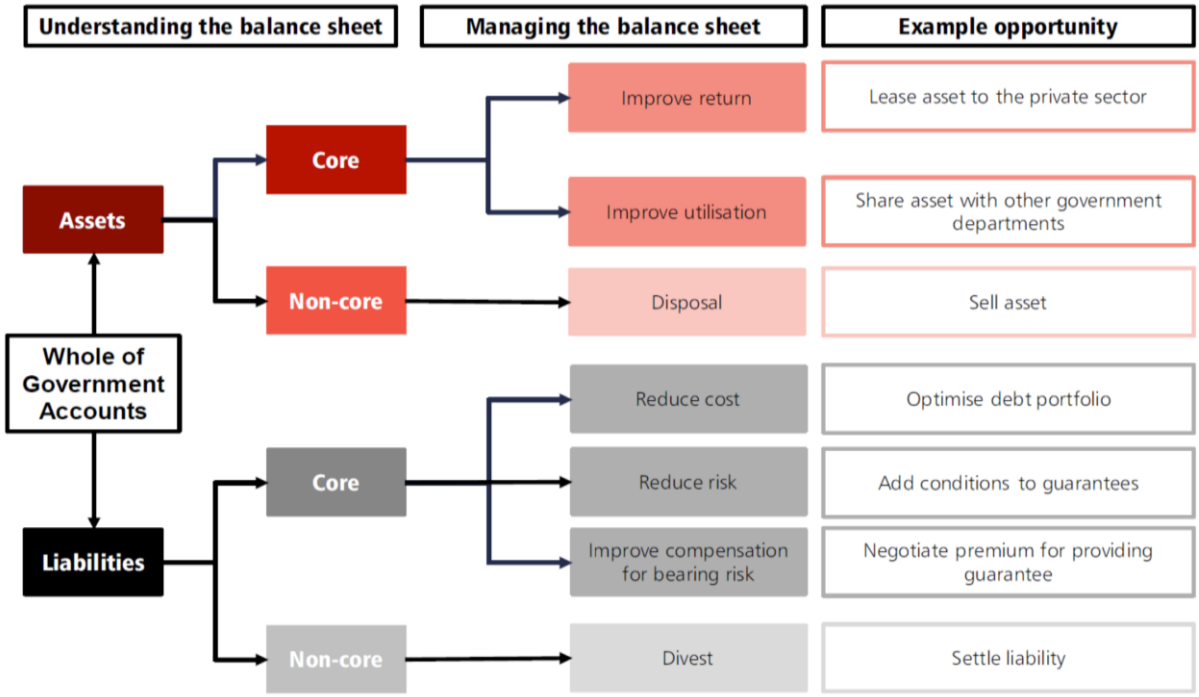
There is a growing body of work and experience in the use of balance sheet information at government level. At least three different strands of work have emerged and are discussed in more detail in Appendix V:

- The whole economy Balance Sheet Approach used by the Fund as an analytical tool since the early 2000s – with the GGS being part of this analysis;
- The more recent Public Sector Balance Sheet database compiled by the Fund which compares balance sheet information for countries that together account for over 90 per cent of global GDP at GGS level;
- Balance sheet analyses and reviews undertaken by some individual countries, typically those that have gained experience in accrual techniques over a longer period.

Balance sheet analysis has potential for better asset and liability management at both national and supra-national levels if the right foundations are put in place (Figure 6). It suggests that balance sheet analysis offers potential at two levels:

- At national level, with a government reviewing its own balance sheet for the purposes of better managing assets and liabilities, and for assessing fiscal risks including solvency and longer-term fiscal sustainability.
- At supra-national level, as part of a regime for monitoring and reporting on the health of public finances and for anticipating fiscal challenges and risks in the region.

**Figure 6: How a Balance Sheet Review Can Improve Asset and Liability Management**



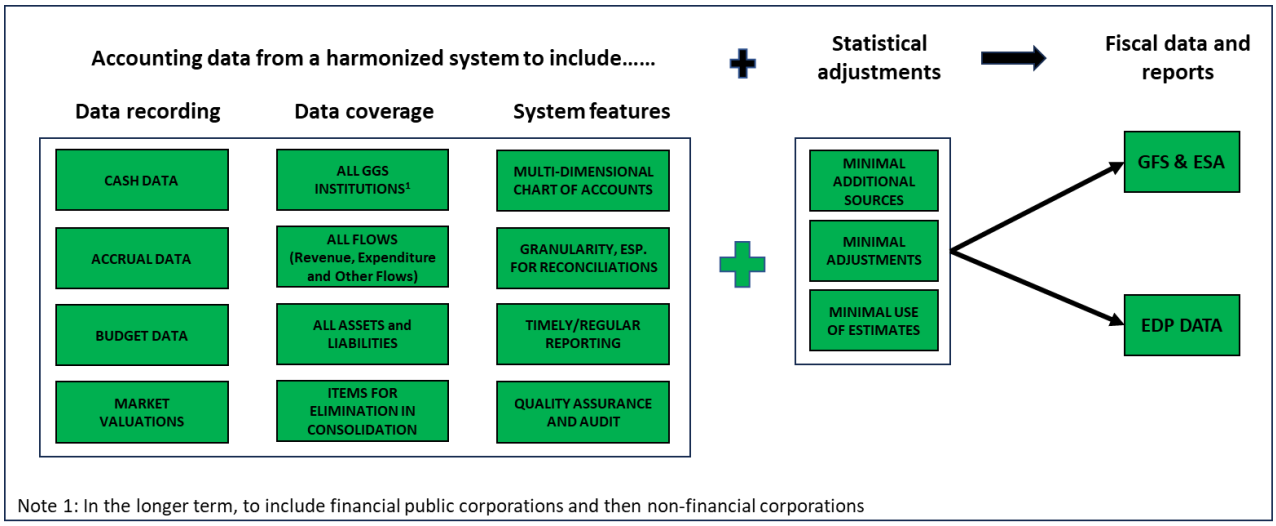

*Source: UK Balance Sheet Review, 2020*

However, such analyses are very dependent on there being processes and systems for the collation of reliable and comparable information to populate these balance sheets. The next section of this report looks at how this can be achieved.

## C. How Can Accrual Accounting Reforms Help in the Future?

This section discusses the characteristics that a country's accrual accounting regime needs to best facilitate or underpin fiscal statistics as shown in Figure 7. The use of accrual accounting information has largely been to provide corroboration rather than be used as the primary source for fiscal statistics. This in part reflects the patchiness of accrual implementation across the EU. For the future, however, we might expect to see the implementation of accrual accounting become the de facto standard across the GGS in most if not all EU nations, and a growing standardization of accounting, through EPSAS or simply through the greater adoption of IPSAS at national level.

**Figure 7: Essential Features of a Government Accounting System to Support Fiscal Statistics**




*Source: IMF staff*

Government accounting systems need to capture transactions and other data on various bases to meet all reporting needs. This typically means:

- Cash data, for cash planning and management as well as budgetary reporting purposes (where the budget remains on a cash basis). Note that any accrual accounting system should automatically also generate cash data for liquidity management as a by-product.
- Budget data, because both statistics and accounting usually require forecast data as part of reporting.[20] The basis of the budget may be neither cash nor accruals—such as mixed regimes (revenue on cash and expenditures on accrual) or where the budget base is a modified form or variant of accrual[21] —and this means that transactions also need to be recorded on a budgetary basis to allow comparisons between budgeted and actual outcomes. Ideally, the system should be able to maintain cash, accrual and budgetary data in a way which all three can be reconciled to each other.
- Accrual data, for all types of flows and balances—revenue and expenditure, assets and liabilities, as well as the other transactions which affect Net Worth ("Other economic flows" in GFS terminology). However, "accruals" is a broad or vague term and should, ideally, be interpreted to mean accruals according to international standards (IPSAS, or an equivalent body of national

[20] Statistical series usually include forecasts for the current or next year; and IPSAS accounting often includes a Statement of Budget and Outturn or something similar. Moreover, budget and actual data is needed for reports on budget execution.

[21] In some jurisdictions, "accrued expenditure" may be when the expense is committed rather than incurred. Likewise, the budgetary basis for revenue might be different from the accrual basis required by IPSAS.

(continued…)

standards based on international standards such as IPSAS or the commercial International Financial Reporting Standards).[22]

- On valuations, the statistical standard is for the use of current market values. In accrual accounting, assets and liabilities (and associated transactions) may use a variety of valuation methods which may differ from market value (historic cost or "current value" basis, in which different measurement models may be used to assess current value[23]). As a result, the accounting system will need to be able to track values (and changes in values) on different bases, for different reporting purposes.

The system needs to include all institutional units in the GGS. There are two issues to consider here: the reporting entity and how to define the boundary.

- On the reporting entity, statistical standards define the GGS as comprising various institutional units for the basis of statistical reporting. Under accounting, however, the GGS may not be a naturally occurring reporting entity because accounting uses the concept of "control" to determine what is within a reporting entity. In some countries, state or local government may be constitutionally independent of central government or the national Parliament, and this may inhibit or even prevent these sub-national units being included in GGS in the accounting boundary for reporting purposes. For governments that report on a "Whole of Government" or public sector basis (i.e., all government-controlled entities including State-Owned Enterprises (SOEs) [24] that are market producers – classified as financial and non-financial public corporations in statistics), accounting standards allow for the GGS to be reported as a segment within this larger public sector reporting entity.
- On the boundary, most institutions are clearly GGS rather than commercial public enterprises (the other component of the public sector). But there is plenty of scope for debate at the margins between public and private sectors, and within the public sector there is scope for debate over whether institutions are public enterprises or GGS. Statistical standards include guidelines on how to resolve such boundary issues.

However, for the purposes of harmonized accounting and statistical reporting, the accounting system needs to include all institutions identified as belonging to the GGS,[25] so that the GGS data is available for statistical reporting even if not included in financial reporting. In the longer run, the ideal is to aim for a reporting system which can include financial and non-financial public corporations and thus can produce data for the entire public sector.

Accounting systems also need comprehensive coverage of all assets and liabilities. Accounting and statistical standards both require the inclusion of all material classes of asset and liability. Both disciplines use very similar concepts to define what is meant by an asset or a liability, and the general aim is to include all such material assets and liabilities within the accounts. However, the coverage differs between the two disciplines, including for:[26]

[22] Under international accounting standards, the general definition of an accrued expense is when the goods and services are received, and accrued revenue when the income has been earned.

[23] IPSAS 46, "*Measurement*", permits three different models for measuring the current value of an asset or liability – current operational value, cost of fulfilment, or fair value – depending on the type of asset or liability.

[24] These public corporations may also potentially have agencies, statutory bodies, or subsidiaries which are market producers that need to be included in the public corporations sector.

[25] Statisticians do this through "Institutional Tables" such as those which EU states append to their EDP inventories (metadata describing how fiscal statistics are compiled).

[26] See *https://www.ifac.org/_flysystem/azure-private/downloads/IPSAS-ISS-Alignment-Dashboard-December-2022.pdf* for the most recent Dashboard of IPSAS and Statistical Standards.

- **Pensions**. As seen above, some unfunded social security pension schemes are excluded from ESA but would be included as liabilities under accounting standards and GFS.
- **Provisions**. Accounting allows for provisions to be made for liabilities which have been incurred but for which the precise value is yet to be determined. GFS excludes provisions, on the grounds that a provision would lead to asymmetry between the liability in one entity's accounts (which would be recognized) and the related asset in the counterparty's accounts (which would not be).
- **Natural resources (other than land)**. GFS requires the inclusion of mineral and energy resources as well as other naturally occurring assets such as water supply or uncultivated forests. In contrast, IPSAS 50covering such assets in their natural state was issued in November 2024 and is not yet applied by governments.
- **Benefits or assets delivered in kind**. GFS requires the valuation and inclusion of goods and services in kind which create an asset, including donated assets. Accounting allows their inclusion but does not require it.
- **PPPs** – GFS recognizes (includes) assets delivered through PPPs (and matching liabilities) based on the balance of risks and rewards between the parties to the agreement, whereas accounting recognizes PPP assets (and liabilities) on the basis of control. In practice this should not lead to major differences since the basis of control in accounting standards also indicates that using the benefits and taking the risks should be considered in determining control.

The system needs to also identify all the material transactions and balances which should be eliminated in consolidation.[27] Both in statistics and accounting, when a consolidated account is produced which covers many institutions, all flows and stocks (balances) between entities within the consolidated boundary should be eliminated, to avoid double counting. Some items to be eliminated are obvious and more easily identifiable (such as transfers or grants between public bodies) but others are less obvious and more difficult to track – see Table 6.

**Table 6: Flows and Stocks to be Eliminated in Consolidation**

| FLOWS | STOCKS |
|---|---|
| • Grants and transfers made and received<br>• Goods and services received and paid<br>• Taxes paid and received<br>• Interest paid and received<br>• Dividends paid and received<br>• Rent paid and received<br>• Profit or loss on transactions between entities<br>• Any other revenue or expense between entities | • Payables and Receivables<br>• Debtors and Creditors<br>• Loans – lender and borrower<br>• On-lending – on both sides<br>• Equity interests in controlled entities – incl. equity injections and share capital issued<br>• Any other assets or liabilities between entities |

*Source: IMF staff, based on GFS manual and IPSASB guidance on IPSAS35 consolidation procedures.*

Consolidation is least problematic when all GGS institutions share a multidimensional unified or integrated Chart of Accounts (CoA) which includes code segments for identifying the counterparty to each transaction; and is made even easier if all entities share a common accounting system in which all inter-entity transactions and balances are automatically flagged as they are processed. These two requirements, and especially the latter, are challenging for governments, especially those with large numbers of public bodies across semi-autonomous levels of government. In the worst-case scenario, consolidation must work with multiple accounting systems, no unified chart of accounts and thus no in-built flagging of inter-entity

[27] In accounting, these are called "eliminations" whereas in statistics they are called "consolidation adjustments", but the concepts are identical.

transactions, and the consequent need for manual methods and short cuts to identify those items to be eliminated inevitably leaves gaps and scope for errors.

An integrated and comprehensive multi-dimensional standardized CoA is central to efficient and reliable reporting. The design of a CoA must satisfy many needs—typically needing to identify transactions by economic, functional, programmatic and organizational classifiers (other classifiers may also be needed or desired, including the counterparty ID needed for consolidation). For fiscal statistics and financial reports based on accounting principles, the economic classifier or segment is critical. Ideally, the CoA classifiers should support budgetary, statistical, managerial, and financial reporting needs by creating the necessary detailed classifications.

Accounting systems need to be able to produce reports in a regular and timely fashion. An accounting system for a single institution should be capable of producing financial reports and their statistical equivalents on a regular basis (monthly, quarterly, annually) and within a short time after the end of the accounting period. The challenge for accounting at GGS level is the existence and functionality of a system which can assemble all the requisite data (including eliminations or consolidation adjustments) to the required frequency and timeliness. This challenge is greatest when accounting is a dispersed or decentralized function, with each institution or sub-sector of the GGS having their own systems and processes; and easiest when a centralized and standardized system is present. In dispersed or decentralized accounting regimes, governments may need to develop or procure dedicated consolidation systems specifically for the purposes of collating accounting data and consolidated reporting.

An accounting system and subsequent reporting needs sufficient granularity to facilitate reconciliations between accounting and statistical data. Earlier sections have described how fiscal statistics, especially under EDP, include the need to reconcile data coming from different sources and from different accounting bases or other methodological differences. These reconciliations are an essential part of the quality control processes for fiscal data. Moreover, within accounting, any set of accrual accounts should include automatic reconciliation between different parts of financial reporting so that the financial statements are fully integrated and internally consistent.[28] An accounting system needs to be able to track and report on these differences and how they can be reconciled—thus providing an audit trail for compilers and for quality controllers. An additional feature should be the ability to track and then explain the differences between financial statements and fiscal statistics—for example, the UK's Whole of Government annual financial statements for 2019-20 include an Annex which explains the two reporting systems (accounting and statistics) and reconciles the differences between them.

A well-designed accounting system should minimize the need for subsequent statistical adjustments. As described above, in the current EU system for fiscal statistics, there are various adjustments that statistical authorities (sometimes at the request of Eurostat) must make to their data. If a government accounting system can meet all the requirements described in the earlier parts of this section, these statistical adjustments can be minimized, or even carried out by the accounting system itself.

Accounting and reporting systems should provide for quality assurance and audit. All the above steps should help bring about systems which are capable of producing reliable accounting and statistical data for the GGS. Nonetheless, it is also useful to incorporate sufficient safeguards to provide data users with assurance of this reliability. That assurance comes in two forms:

[28] For example, the Cash-Flow Statement should reconcile to the cash balances in the Balance Sheet.

(continued…)

- Quality assurance through the application of appropriate internal control procedures and other quality assurance systems using established frameworks – these framework and related accreditations provide assurance on an ongoing basis as to the quality and reliability of data being reported and are particularly relevant for fiscal statistics.[29]
- Audit assurance, through internal and external audit, although this is usually limited to work on the integrity of financial data and annual financial statements rather than direct assurance on fiscal reports.

In the EU, Eurostat plays an additional role in ensuring data quality, through providing methodological and technical advice, validating member state EDP submissions, carrying out routine visits to member state statistical offices to review procedures, and issuing an annual report on data quality.

It may be difficult to meet all these requirements, but the more of them that can be achieved the greater the scope for fiscal statistics to rely directly on accrual accounting data. Each of the above requirements is worth doing and will contribute to greater scope for using accrual data directly in fiscal statistics. This should lead to greater benefits in terms of more reliable and more efficient fiscal data processes.

# D. CONCLUSIONS

The purpose of this review was to draw out some general lessons rather than focus on Eurostat or individual member states. The authors have worked primarily from published sources, validated where possible in discussions with Eurostat, against other published material, and through a network of academics who are familiar with accounting reforms in some of the member states of the EU. Our conclusions are therefore intended to be general, and it would need considerably more work and corroboration of evidence and conclusions to support recommendations in respect of individual member states, even if we wished to. At the same time, the compilation practices described in EU member states are very likely to be mirrored in other countries outside the EU (albeit within national rather than EU frameworks), and thus the lessons and observations may well have a wider relevance. Our main findings and conclusions are as follows:

While a clear trend toward the adoption of accrual accounting for the general government sector was identified, there is still great diversity in accounting practices among EU member states.

- **EU member states show a clear trend toward adoption of accrual accounting in the general government.** As a result of completed or ongoing national reforms, 19 member states have reached the status of “mature accruals” or “well on the way to accrual”. The trend to “more accrual” extends to 2025 and beyond, as six more countries have started the journey of accrual reform and are expected to fill their accounting maturity gap over the next years. So far, reforms implemented at national level have been largely independent of any advance in the EPSAS Project, following the Council Directive 2011/85/EU.
- At the same time, there is still great diversity in accounting practices and maturities among EU member states. This is due to various reasons:

    - National accounting frameworks and accrual reform paths are largely affected by country specific factors (such as its own accounting history, legal system, institutional framework, and others).

[29] Member state quality assurance arrangements for their fiscal data can be seen in their EDP inventories on the Eurostat website, and in the Dissemination Standards Bulletin Board (DSBB) on the IMF website, which includes overviews of data methods and standards for each country.

- Momentum in accrual reform and the way of managing transition to accrual are different for various member states. It is to be noticed that two member states (in the cash countries) are still sceptical of undertaking any accrual accounting reform, while 15 member states are at different points on the long path to full “accrual maturity”.
- Albeit several countries have assumed IPSAS as a reference or basis for their accounting reform, the way IPSAS are being incorporated in the national accounting frameworks varies.

Hence, the need for harmonization of accounting practice stands as a priority in the European context, together with the issue for the EU institutions to play an active role.

- In several national cases, the objective of harmonizing accounting frameworks throughout the general government is key to accrual accounting reform. Transition to a single accrual accounting framework is seen to overcome accounting fragmentation, and to facilitate consolidation of accounting data across different entities of the general government. IPSAS provide a common basis or reference for such an accounting harmonization.

Improving accounting systems to provide better information to be used in fiscal statistics is a clear driver of reforms. However, the process is long and complex and accounting reforms often is not fully utilized in compiling fiscal statistics due to various deficiencies and obstacles.

- In the EU context, improving quality of accounting data to be used for fiscal statistics provides a major rationale for accrual accounting reform. Accrual accounting and reporting serve multiple purposes and users. However, a special emphasis on the statistical use of accrual accounting data is laid by the Council Directive 2011/85/EU, that gave rise to the EPSAS project led by Eurostat. Selective adoption of IPSAS is addressed as a way to more reliable accounting data to support these purposes.
- **Transition to accrual is a long and complex exercise.** Designing and implementing an accounting reform is a multiannual effort, that requires multiple conditions to be met for being successful. Capacity building and IT requirements have proved to be main challenges to be dealt with when bringing accrual accounting systems into operation.
- **Few countries are making full use of accrual data to produce their fiscal statistics**. The evidence suggests that the main source for fiscal statistics in many countries and sub-sectors of the GGS remains cash or mixed data sources, despite advances in accrual accounting. Lack of requirements to reconcile outcome in financial statements with fiscal statistics may be a contributory factor.
- **The obstacles to using accrual data directly may be methodological, practical or simple inertia**. Even where accrual data is available, cash data may be the preferred option because they are considered methodologically more appropriate; or because data compilers are accustomed to using cash-based sources and have not yet developed techniques for using the newly developed accrual source data.

While the use of cash-based accounting data requires more adjustments to derive accrual statistics, this practice should be investigated more closely to establish its impact on the reliability of the fiscal data.

- **The use of cash-based sources should in theory require more adjustments to generate the eventual accrual statistics.** The initial analysis suggests that the use of cash-based data, unsurprisingly, requires more types of adjustment to arrive at the final accrual statistic and that using accrual data directly should be more efficient – but this is a hypothesis which needs more testing in the field.
- **Use of cash data for financial data does not appear to pose a fundamental problem of reliability, in the EU at least**. Internal consistency checks which validate flow data against stock data for financial assets and liabilities helps ensure that the cash-based statistics are reliable, for deficit and debt reporting purposes.

Even in the relatively sophisticated EU accounting frameworks, the main weaknesses in financial reporting, and therefore also in statistical reporting seems to be in non-financial assets and pension liabilities. The absence of full balance sheet data, therefore, also result in lack of consideration of fiscal decisions on the net worth of government.

- **The main weaknesses in EU fiscal statistics appear to be in non-financial assets and pension liabilities**. Whilst financial balance sheets (excluding pensions) appear complete, up to date and reliable, the rest of the balance sheet is updated less frequently and with considerable lags, and the data appear less complete.
- **As a result, there has not been much attention to balance sheet analysis**. Member states and Eurostat have been guided largely by the requirements of the EU financial governance regime, which focuses on deficits and debt. There has been no coordinated action on developing approaches to country balance sheets, for use at national level or as part of a future EU-wide governance regime.
- **The ability to produce better balance sheets is in part constrained by the patchy implementation of accrual accounting across member states.** Although fiscal statisticians can generate fuller balance sheet data from cash-based sources (using modelling, surveys and actuarial evaluations), the roll-out of full accrual accounting can do much to supply the required information. However, there is some way to go before member states can provide a harmonized or uniform set of accounting data on all assets and liabilities.

Features of reformed accounting and national statistical reporting could facilitate improved analysis and use of these in fiscal decisions. However, the reform process remains a long-term endeavor that should be carefully integrated into a integrated reform of public financial management systems.

- **There are features which can be built into national accounting frameworks and systems which can facilitate greater direct use of accrual accounting data in fiscal statistics.** We set out some of the characteristics that such frameworks and systems need to have so that accrual data can be used in fiscal statistics, resulting in more reliable data, more efficient processes, and offering new fiscal perspectives through the balance sheet.
- **These are not issues which will be resolved tomorrow or addressed without careful thought.** It is not a straightforward task to develop suitable national accounting frameworks and systems, or the interface between accounting and parallel or integrated systems to produce fiscal statistics. We do not underestimate the scale of the challenges. The features we mention above can be built into new systems or they can be retrofitted into existing systems. Either way, it is likely to take time, be a phased process, and will need careful thought and planning.

# Appendix I. Accounting Maturities

## A. The PwC/Eurostat Survey

The PwC/Eurostat survey assessed accounting maturity in terms of degree of compliance with the EU member states' reporting requirements. The score is an effort-based score rather than an accounting technical score. The percentage weight indicates the relative effort to move from a cash-based to an IPSAS-based accrual accounting framework as the benchmark.[30] Lower scoring reflects less compliance and thus greater effort required to fill the gap. Total scoring for each member state is obtained as a weighted average of the scores given for different accounting areas and subsectors of the GGS (see Table 7). Accounting maturity scores for the GGS (as of 31 December 2018) range from 16 percent (Greece – maximum effort needed) to 90 percent (Estonia – minimum effort needed).

**Table 7: Weight of the Different Accounting Areas in the PwC/Eurostat Accounting Maturity Scoring**

| Accounting area | IPSAS Standards | Central, State, and Local | | Social Funds | |
|---|---|---|---|---|---|
| | | Scoring points | Weight | Scoring points | Weight |
| Reporting | IPSAS 1, 2, 3, 18, 20, 22, 24 | 12 | 12% | 4 | 12% |
| Consolidation | IPSAS 34, 35, 36, 37, 38 | 7 | 7% | - | 0% |
| Fixed assets | IPSAS 5, 13, 17, 21, 23, 26, 32 | 33 | 33% | - | 0% |
| Intangible assets | IPSAS 31 | 2 | 2% | - | 0% |
| Inventories | IPSAS 12 | 3 | 3% | - | 0% |
| Revenue | IPSAS 9, 23 | 14 | 14% | 3 | 9% |
| Accruals and expenses | IPSAS 1 | 18 | 18% | 18 | 55% |
| Employee benefits | IPSAS 39 | 5 | 5% | 5 | 15% |
| Provisions | IPSAS 19 | 2 | 2% | - | 0% |
| Financial instruments | IPSAS 28, 29, 30 | 4 | 4% | 3 | 9% |
| *Source: PwC, Updated accounting maturities of EU governments, 2020.* | | | | | |

Figure 8 shows the 27 EU member states' accounting maturity scores for GGS in 2018 and 2025, based on PwC/Eurostat survey. Thresholds of 40 percent and 70 percent provide useful boundaries to distinguish three broad groups of accounting maturity in 2018:

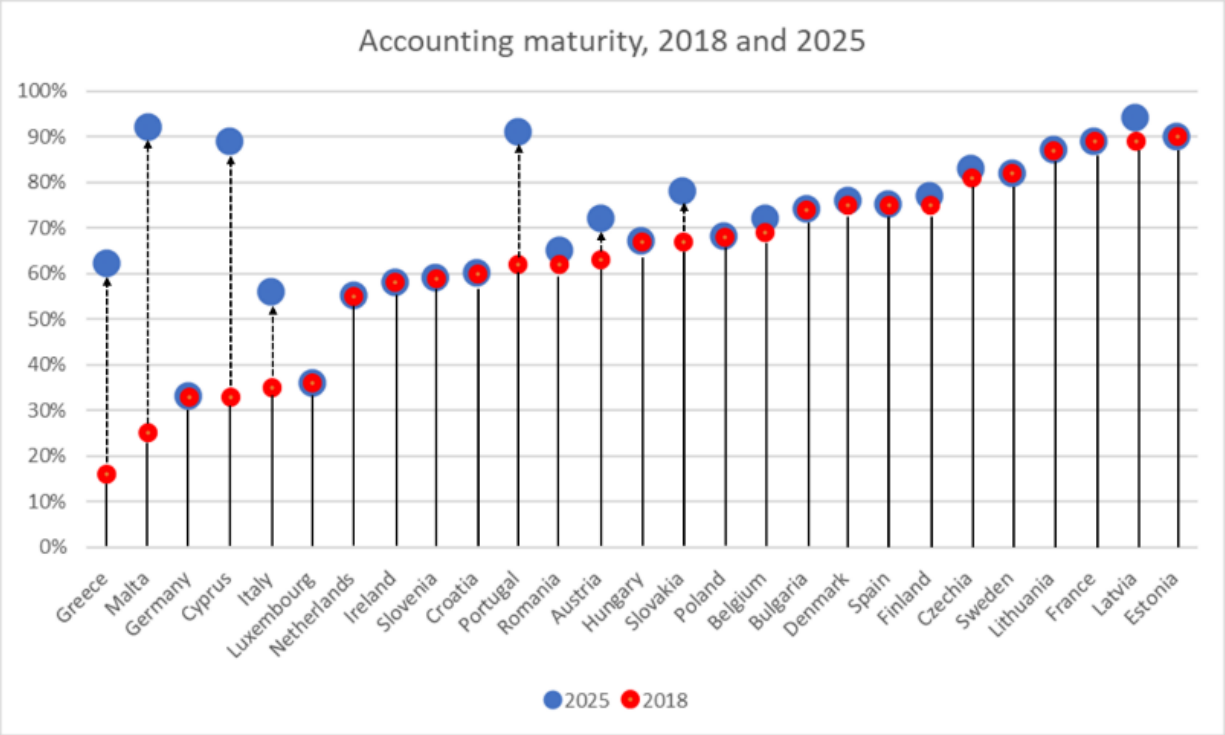
- 6 countries scored under 40% (Greece, Malta, Germany, Cyprus, Italy, Luxembourg);
- 11 countries populate the segment between 40 percent and 70 percent (Netherlands, Ireland, Slovenia, Croatia, Portugal, Romania, Austria, Hungary, Slovakia, Poland, Belgium);
- 10 countries scored more than 70 percent (Bulgaria, Denmark, Spain, Finland, Czech Republic, Sweden, Lithuania, France, Latvia, Estonia).

Being in the same group of accounting maturity does not imply having the same or even similar accounting practice. There is little in common between at least some of these countries in terms of institutional arrangements, accounting history and current accounting environment (for example, between Cyprus and Italy, or Greece and Germany). Accounting maturity for the various GGS subsectors, and departures from

[30] The ultimate objective of the PwC/Eurostat survey was to estimate the cost of a future EPSAS reform at EU level, with EPSAS based on compliance with IPSAS.

IPSAS, may vary from one country to another; and not all these countries are on the same basis of reporting even at central government level. What unites countries' maturity scoring is the effort needed for transition to an IPSAS-based accounting framework, but the reasons for their current gap and obstacles to overcome are different.

**Figure 8: Accounting Maturities of EU Member States, 2018 and 2025 Forecast**




*Source: PwC, Updated accounting maturities of EU governments, 2020*

Most countries were not forecast to significantly improve their accounting maturity from 2018 to 2025. The PwC/Eurostat survey included provisional maturity estimates for 2025. These were based on governments' expectations of any ongoing or planned reforms at the time the survey was conducted (autumn 2019, with follow-up work in the first half of 2020). These expectations referred to 2025 or a later date if the ongoing or planned reform was expected to be completed after 2025. In Figure 1, 22 countries show little or no movement between the two data points, meaning that they were not forecast to improve their accounting maturity scores in a substantive manner while 5 were forecast to improve significantly over the period 2018 to 2025. Specifically:

- 14 countries were not forecast to make any progress throughout the GGS (Germany, Luxembourg, Netherlands, Ireland, Slovenia, Croatia, Hungary, Poland, Bulgaria, Spain, Sweden, Lithuania, France, Estonia).
- Five countries were forecast to make limited progress (Romania, Denmark, Finland, Czech Republic, Latvia).
- Three countries were expected to make progress but only in some sub-sectors of the GGS (Austria – state and local government, Slovakia – social security, Belgium – state).
- Five were forecast to move significantly to fill their accounting maturity gap, with a major change at central government level by 2025. These are Greece, Malta, Cyprus, Italy, and Portugal. While Greece, Malta, Cyprus, and Italy were scored low accounting maturity in 2018, Portugal was included in the "middle segment" (likely because of its ongoing reform).

The reasons for and the impacts of not progressing to higher compliance with IPSAS vary depending on countries' maturity. For example, countries at a very high level of maturity may feel that the principles in a

small number of IPSAS continue to be unsuitable for their jurisdiction—with the most notable example being countries that did not expect to make progress with applying the standard on employee benefits.[31] At the opposite end of the spectrum, countries that have been scored with low accounting maturity may have expected to continue their conservative approach towards accrual accounting reforms.

Overall, compliance with IPSAS remains limited in some key accounting areas at central government level. The PwC/Eurostat survey also provided details of the application of IPSAS in selected accounting areas for central government level[32] (as at end of 2018). The survey found that there was less IPSAS compliance in some accounting areas: these included revenue and expense recognition, accounting for financial instruments, consolidation practices, and the use of provisions; but a particular area of non-compliance was in accrual accounting for employee benefits.

## The IFAC/CIPFA Survey

Data from the IFAC/CIPFA survey provided information on the financial reporting basis applied at central/federal government level in 2020 and changes forecast for 2025. Survey respondents were asked to classify their financial reporting into one of three categories: cash, partial accrual (some transactions recognized on cash, some on accrual), or accrual.

Most member states were not using the accrual basis of reporting at central/federal government level in 2020. Table 8 shows the results for EU member states in 2020 and the forecast for 2025. In 2020 the reporting basis shows the following:

- Six countries reported on cash (Cyprus, Germany, Ireland, Malta, Luxembourg, Netherlands).
- 10 countries reported on partial accrual (Bulgaria, Croatia, Hungary, Italy, Greece, Poland, Portugal, Romania, Slovakia, Slovenia).
- 11 countries provided accrual financial reports (Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Latvia, Lithuania, Spain, Sweden).

The IFAC/CIPFA review also shows that nine countries are forecast to change their reporting basis by 2025. These countries are all moving towards “more” advanced accrual, and specifically:

- two out of six cash countries are shifting to accrual (Cyprus and Malta) and one to partial accrual (Ireland).
- six out of 10 partial accrual countries are moving to accrual reporting (Hungary, Poland, Portugal, Romania, Slovakia, Slovenia).

This means that by 2025 two thirds (19) of the EU member states expect to be reporting on accruals, five on partial accruals and just three will continue to report on a cash basis. However, it should be kept in mind that within each of these categories of reporting basis, some advancements could be planned, but without showing up as a change in the basis of reporting in the survey.

[31] Employee benefit regimes are very specific to different jurisdictions, and governments often prefer to not recognize accrued benefits, but rather deal with those on a pay-as-you-go basis.

[32] The survey results did not support such analysis at lower levels of government.

**Table 8: Reporting Basis of EU Member States, 2020 and 2025 Forecast (central/federal government)**

| Country | 2020 | 2025 |
|---|---|---|
| Cyprus | Cash | Accrual |
| Germany | Cash | Cash |
| Ireland | Cash | Partial accrual |
| Luxembourg | Cash | Cash |
| Malta | Cash | Accrual |
| Netherlands | Cash | Cash |
| Bulgaria | Partial accrual | Partial accrual |
| Croatia | Partial accrual | Partial accrual |
| Hungary | Partial accrual | Accrual |
| Italy | Partial accrual | Partial accrual |
| Greece | Partial accrual | Partial accrual |
| Poland | Partial accrual | Accrual |
| Portugal | Partial accrual | Accrual |
| Romania | Partial accrual | Accrual |
| Slovakia | Partial accrual | Accrual |
| Slovenia | Partial accrual | Accrual |
| Austria | Accrual | Accrual |
| Belgium | Accrual | Accrual |
| Czech Republic | Accrual | Accrual |
| Denmark | Accrual | Accrual |
| Estonia | Accrual | Accrual |
| Finland | Accrual | Accrual |
| France | Accrual | Accrual |
| Latvia | Accrual | Accrual |
| Lithuania | Accrual | Accrual |
| Spain | Accrual | Accrual |
| Sweden | Accrual | Accrual |

*Source: IFAC/CIPFA, International public sector financial accountability index, 2021*

# Appendix II Cluster Analysis

**Cluster 1: Cash countries**

The cash countries are Germany and Netherlands.

Germany and the Netherlands have long been acknowledged as accrual reform sceptics, at least for central government. Accounting and reporting across the different subsectors of GGS in both Germany and the Netherlands is far from being homogeneous, but in both countries the central government administration remains substantially on cash and there are no current plans to change this.

For Germany, the variety of accounting practices is mirrored in average maturity scores for federal government, state government, and social security (23 percent, 31 percent, 31 percent) that are significantly lower than for local government (58 percent).

- Federal government basis for accounting is cash, although the Ministry of Finance is also required by law to submit to the Parliament a statement of assets and liabilities for the preceding fiscal year. An earlier project to complement cash-based accounts with accrual accounts was halted due to lack of Parliamentary support, based on concerns over costs and loss of budgetary control.[33] More recently, the German Federal Audit Office (Bundesrechnungshof) has officially opposed the initiative of the European Commission to introduce accrual-based standards.[34]
- At state government level, a few entities are on accruals (i.e., Hesse and Hamburg) with other states applying cash or partial accruals.[35]
- Most local governments apply the accrual basis of accounting.

Consolidated general government statistics are compiled using statistical methodologies to adjust cash-based source data.

In the Netherlands a similar difference can be observed between various levels of government. There is a difference between central and local governments (with accounting maturities of 38 percent vs. 58 percent respectively).[36]

- Ministries apply an integrated commitment-cash accounting system for budget preparation, execution and end-of-year reporting purposes. The introduction of accrual accounting at central government level was abandoned following some pilot experiences. A 2017 Report by the Advisory Committee on Central Government Reporting System[37] pointed out the appropriateness of the exiting cash accounting system, while recommending a further interim assessment to be

[33] Cited in Box 2 of "Getting Added Value Out of Accrual Reforms", OECD, 2018.

[34] Federal Audit Office, Information 19/60, 15 November 2017. "Drucksache 19/60, 15.11.2017. Unterrichtung durch den Bundesrechnungshof. Bericht nach § 99 der Bundeshaushaltsordnung über die angestrebte Einführung harmonisierter Rechnungsführungsgrundsätze für den öffentlichen Sektor (EPSAS) in den Mitgliedstaaten der Europäischen Union". See also: Heinling J., Accrual Accounting and Germany – Not Good Friends! Accrual versus Cash Accounting in the Light of Decision-Making, 16th International Symposium on Public Sector Management "Decision-Making in Public and Nonprofit Management", Mannheim and Speyer, July 4th-July 6th 2019, May 2020.

[35] See: Kirchmann U., De Clerck S., German State of Hesse Tests the Suitability of IPSAS, IMF PFM Blog, August 16, 2021.

[36] See: National Academy for Finance and Economics – Ministry of Finance, Public Finance in the Netherlands, Den Haag, January 2013; and Budding T, van Sheik, Accounting and Auditing in the Netherlands, in Brusca I. *et al.* (eds), Public Sector Accounting and Auditing in Europe, The Challenge of Harmonization, Pelgrave Macmillan, 2015.

[37] A joint Committee of the Ministry of Finance and the Netherlands Court of Audit (Algemene Rekenkamer). See: Baten en lasten geherwaardeerd. Voor- en nadelen van verdere toevoeging van baten-lasteninformatie. Rapportage Adviescommissie Verslaggevingsstelsel rijksoverheid, maart 2017.

(continued…)

conducted in 2020.[38] The interim exercise has recently identified financial risks as well as investment projects and assets as the main areas for improvement of financial information. The preparation of the central government balance sheet was discontinued in 2014.
- Central government executive agencies use the accrual basis of accounting.
- Local governments apply a modified accrual basis of reporting in their accounting system.
- The high maturity in the sub-sector of social security (78 percent) contributes to the Netherlands showing the highest average score for the general government (55 percent) in the cluster of cash countries.

Consolidated general government accounts are compiled using the statistical basis of reporting but there are no whole-of-government financial accounts.

**Cluster 2: On the way to accrual**

While countries in this cluster share a similar background with the cash countries, the difference is their decision and concrete steps already taken to move towards accrual accounting. Key characteristics of this clusters are:

- low/medium accounting maturity for the GGS (2018);
- cash (or partial accrual) basis of reporting at central government level (2020); and
- major shift to accrual foreseen for 2025 and/or beyond.

Countries matching all these characteristics in the two data sources are Cyprus, Greece, Italy, and Malta. The expectation of a significant shift to accrual is based on both PwC/Eurostat and IFAC/CIPFA surveys for Cyprus and Malta. For Greece and Italy, only the PwC/Eurostat survey provides evidence of a move to higher accounting maturity. For all four countries, forecasts from the two main sources were corroborated through analysis of additional sources.

Following further analysis, Ireland was added to this cluster. For Ireland, data from the main sources are not fully consistent, as the PwC/Eurostat survey gives this country a relatively high score for central government (57 percent), while this country is reported to be using a cash basis of reporting by the IFAC/CIPFA Index. In late 2019, however, the Irish government announced a significant reform to transition from cash to an IPSAS-based accrual accounting framework for central government and eventually for the general government. That reform is ~~underway, and~~underway and thus allows Ireland to be included in this cluster.

Luxembourg is included in this cluster despite the outcome of the two principle data sources. They have a low accounting maturity score for both central and local government (23 percent and 11 percent respectively) and lack signals of transition to accruals from the PwC/Eurostat and IFAC/CIPFA surveys.

However, Luxembourg has begun an accrual accounting reform for central government, although this is still at an early stage. The Ministry of Finance, with assistance from the European Commission's Directorate General for Reform, carried out a feasibility study[39] between 2019 and 2021, and a follow-up project has been approved in 2022 for capacity building and setting-up accrual accounting policies.[40]

[38] The interim assessment was conducted from the second half of 2021 to the first quarter of 2022. See: Evaluatie verslaggevingsstelsel rijksoverheid 2022. Gebruikersbehoefte central. Versie 1.0, 3 juni 2022.

[39] "Exploring options and preparing an action plan for the implementation of a new budgetary accounting and financial reporting framework in Luxembourg" (SRSS/SC2019/048).

[40] "Towards an accrual accounting system in Luxembourg based on international standards (follow-up technical support)". See: https://reform-support.ec.europa.eu/our-projects/country-factsheets/luxembourg_en.

Albeit to different degrees, all the countries in the cluster have engaged in significant work to adopt an accrual accounting framework for the GGS based on IPSAS. Table 9 shows the timetables for sub-sector accounting frameworks in these six members states. Cyprus and Ireland appearing to be ahead in bringing the new accounting framework "live", but all hope to have made significant progress by 2025.

**Table 9: Progress in Bringing the New Accounting Framework into Operation, 2023**

| | Subsectors of GGS | | | |
|---|---|---|---|---|
| **Member State** | **Central Government** | **State Government** | **Local Government** | **Social Security** |
| **CY** | Live | n/a | 2024 | 2024 |
| **EL** | Live[1] | n/a | 2025 (?) | 2025 (?) |
| **IE** | 2024 | n/a | 2025-27 | n/a |
| **IT** | 2025 | 2025 | 2025 | 2025 |
| **LU** | No forecast | n/a | No forecast | No forecast |
| **MT** | No forecast | n/a | No forecast | No forecast |

*Source: IMF staff team*
*Note: Only at Central Administration within central government.*

Although harmonization of the accounting frameworks across the GGS was a major reason for reforms in these countries, the basis of reporting in these countries remains mixed. Due to impact of reforms still being incomplete, the basis of financial accounting in use remains highly fragmented across levels of government as indicated in Table 10.

**Table 10: Basis of Financial Reporting by GGS Sub-sector 2023**

| | Subsectors of GGS | | | |
|---|---|---|---|---|
| **Member State** | **Central Government** | **State Government** | **Local Government** | **Social Security** |
| **CY** | A[1] | * | A | A |
| **EL** | M[2] | * | A | C |
| **IE** | C[3] | * | A | * |
| **IT** | M[4] | A | A | M[5] |
| **LU** | M | * | M | A |
| **MT** | C | * | A | * |
| | **Key:** C – Cash; M – Mixed; A – Accrual; * - Not applicable | | | |

*Source: IMF staff team*

1) *Since 2023 (previously cash)*
2) *Accrual for entities within the Central Administration and Government. entities under private law. Cash for Government entities under public law and hospitals (included in central government for statistical purposes).*
3) *Some information in the financial statements on accrual basis.*
4) *Ministries only apply cash-based budgetary accounting, but State's financial statements include an accrual balance sheet; other central government's entities range from cash to accrual accounting.*
5) *Financial statements include accrual balance sheet and income statement alongside cash and commitment-based budgetary statements.*

**Cluster 3: Well on the way to accrual**

Countries in this cluster are well on the way to accrual but need to take some further steps to achieve high accounting maturity in all the subsectors of the GGS. These countries share the following characteristics:

- Medium accounting maturity score (2018) for the GGS (>40 percent; < 70 percent);
- Accrual (or partial accrual) basis of reporting at central government level (2020); and
- Some improvement foreseen for 2025.

Member states matching these criteria are Austria, Belgium, Croatia,[41] Hungary, Poland, Portugal, Romania, Slovenia, and Slovakia.

These member states score from 59 percent (Slovenia) to 69 percent (Belgium) as their accounting maturity for the GGS. This is a consequence of these countries being very close to accrual maturity in some subsectors, while still needing progress in some others to achieve the status of fully mature accrual countries.

All the countries in this cluster (except Croatia and Portugal) show higher accounting maturity for central government (over 70 percent). Austria (77 percent) and Belgium (78 percent) report on accrual at central government level, according to the IFAC/CIPFA review, while Slovakia (78 percent) is expected to shift from partial accrual to accrual. Hungary (71 percent), Poland (72 percent), Romania (71 percent), and Slovenia (72 percent) are also forecast to strengthen their position in terms of accrual reporting at central government level by 2025.

Higher accounting maturity at central government level does not imply full adoption of an IPSAS accounting framework. According to the IFAC/CIPFA review, Hungary, Poland, Romania, and Slovenia apply their own national standards (they fall under the category “national standards: other”), while Belgium is moving to “national standards with reference to IPSAS”, an approach already adopted by Slovakia. Austria is moving from “national standards with reference to IPSAS” to “IPSAS modified for the local context.”

Accounting maturity for local government is generally in line with central government except for Austria and Portugal. Austria (37 percent) is addressing local government as a main area for improvement to complete the accrual accounting reform. Portugal local entities (70 percent) seem to be ahead of other subsectors of GGS in implementing the new accrual accounting framework.

State government and social security generally show lower accounting maturity. These levels of government score lower in all the countries in the clusters, with largest gap in Austria (state – 45 percent), Croatia (social security – 42 percent), Romania (social security – 36 percent), Slovenia (social security – 34 percent), and Slovakia (social security – 44 percent). Austria (state), Belgium (state), and Slovakia (social security) are expected to narrow the gap by 2025 based on the PwC/Eurostat survey.

While all these countries, except Croatia, are forecast to make some improvement in accounting maturity and/or reporting basis at central government level, Portugal is a unique in this cluster in terms of extent of expected progress. Over the period to December 2026, as part of the National Recovery and Resilience Plan, this country is expected to complete the ongoing accounting reform through application of the new IPSAS-based accrual accounting framework (SNC-AP) to the state accounting entity and general government consolidation of public accounts. The accounting reform in Portugal is discussed in the Appendix I.

[41] Croatia is the only country in the cluster not forecast to make any improvement by 2025 in terms of accounting maturity for the general government or reporting basis at central government level.

**Cluster 4: Mature accrual accounting**

This cluster refers to those countries that were estimated mature accrual accounting reformers in 2023. In general, it means that they are close to the finish line or almost there in implementing accrual accounting systems throughout the GGS. These countries share the following characteristics:

- High accounting maturity score (2018) for the GGS (>70 percent)
- Accrual basis of reporting at central/federal government level (2020)
- No or little improvement foreseen for 2025.

This cluster includes Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Latvia, Lithuania, Spain, and Sweden.

Countries in this cluster have high maturity scoring (>70%) for all the sub-sectors of the GGS. Only Finland and Spain score slightly lower in the social security sub-sector (Finland 63 percent, Spain 65 percent). Apart from these exceptions, accrual accounting in financial reporting in these countries can be considered largely fully implemented throughout the GGS.

These countries are not forecast to implement major reform in any subsector of the GGS in the period 2018 to 2025. For some member states in this cluster (Denmark, Estonia, Finland, France, Spain, and Sweden), the 2017 OECD/IFAC survey42 confirms that these countries had already completed accrual reforms for central government in 2017. In contrast, Czech Republic seems to be the “newest member of the club” as it shifted from cash to accruals over the period 2017 to 2020.

Estonia, France, Latvia, and Lithuania show the highest accounting maturity scores for the GGS (≧ 87%). Additional description of the Estonian case is reported in the Appendix I, as this country is generally acknowledged as a best practice for integration of accrual accounting data in Public Financial Management and Government Finance Statistics.

[42] OECD/IFAC, Accrual Practices and Reform Experiences in OECD Countries, OECD Publishing, Paris, 2017. http://dx.doi.org/10.1787/9789264270572-en

# Country Data from Available Sources – By Cluster

| | OECD (2017) | | PwC/Eurostat Accounting Maturity (2020) | | | | | | | | | | CIPFA/IFAC Accountability Index (2021) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2018 | | | | | 2025 (forec.) | | | | | 2020 | | 2025 (forec.) | |
| Cluster | Accounting basis | Status of adoption/transition to | Central | State | Local | Social | General Gvnt | Central | State | Local | Social | General Gvnt | 2020 | Accounting framework | 2025 (forec.) | Accounting framework |
| **Cash champions** | | | | | | | | | | | | | | | | |
| Germany | Cash | Not contemplated | 23% | 31% | 58% | 31% | 33% | 23% | 31% | 58% | 31% | 33% | Cash | National stds: other | Cash | National stds: other |
| Luxemburg | Cash transitioning to accruals | Planned | 23% | | 11% | 67% | 36% | 23% | | 11% | 67% | 36% | Cash | National stds: other | Cash | National stds: other |
| Netherlands | Cash | Not contemplated | 38% | | 58% | 78% | 55% | 38% | | 58% | 78% | 55% | Cash | National stds: other | Cash | National stds: other |
| **On the way to accrual** | | | | | | | | | | | | | | | | |
| Cyprus | n.a. | n.a. | 37% | | 82% | 4% | 33% | 89% | | 82% | 87% | 89% | Cash | IPSAS with no modifications | Accrual | IPSAS modified for the local context |
| Greece | Cash transitioning to accruals | Planned | 13% | | 68% | 12% | 16% | 88% | | 96% | 12% | 62% | Partial accrual | National stds with reference to IPSAS | Partial accrual | National stds with reference to IPSAS |
| Italy | Cash | Ongoing | 39% | | 55% | 14% | 35% | 76% | | 74% | 14% | 56% | Partial accrual | National stds: other | Partial accrual | National stds with reference to IPSAS |
| Malta | n.a. | n.a. | 24% | | 94% | | 25% | 92% | | 94% | 0% | 92% | Cash | National stds: other | Accrual | IPSAS modified for the local context |
| Ireland (?) | Cash | Planned | 57% | | 71% | | 58% | 57% | | 71% | 0% | 58% | Cash | National stds: other | Partial accrual | National stds with reference to IPSAS |
| **Mostly accrual** | | | | | | | | | | | | | | | | |
| Austria | Accrual | Completed | 77% | 45% | 37% | 61% | 63% | 77% | 73% | 73% | 61% | 72% | Accrual | National stds with reference to IPSAS | Accrual | IPSAS modified for the local context |
| Belgium | Accrual | Ongoing | 78% | 66% | 74% | 59% | 69% | 79% | 76% | 74% | 59% | 72% | Accrual | National stds: other | Accrual | National stds with reference to IPSAS |
| Croatia | n.a. | n.a. | 66% | | 69% | 42% | 60% | 66% | | 69% | 42% | 60% | Partial accrual | National stds: other | Partial accrual | National stds: other |
| Hungary | Accrual | Completed | 71% | | 71% | 57% | 67% | 71% | | 71% | 57% | 67% | Partial accrual | National stds: other | Accrual | National stds: other |
| Poland | Accrual | Completed | 72% | | 72% | 59% | 68% | 72% | | 72% | 59% | 68% | Partial accrual | National stds: other | Accrual | National stds: other |
| Portugal | Cash transitioning to accruals | Ongoing | 59% | 49% | 70% | 64% | 62% | 100% | 95% | 99% | 64% | 91% | Partial accrual | IPSAS modified for the local context | Accrual | IPSAS modified for the local context |
| Romania | n.a. | n.a. | 71% | | 71% | 36% | 62% | 75% | | 75% | 37% | 65% | Partial accrual | National stds: other | Accrual | National stds: other |
| Slovakia | Accrual | Completed | 78% | | 78% | 44% | 67% | 83% | | 83% | 68% | 78% | Partial accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |
| Slovenia | Cash transitioning to accruals | Planned | 72% | | 72% | 34% | 59% | 72% | | 72% | 34% | 59% | Partial accrual | National stds: other | Accrual | National stds: other |
| **Accrual matures** | | | | | | | | | | | | | | | | |
| Bulgaria | n.a. | n.a. | 76% | | 76% | 70% | 74% | 76% | | 76% | 70% | 74% | Partial accrual | National stds: other | Partial accrual | IPSAS with no modifications |
| Czechia | Cash | Ongoing | 83% | | 83% | 72% | 81% | 85% | | 85% | 72% | 83% | Accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |
| Denmark | Accrual | Completed | 79% | | 71% | 72% | 75% | 80% | | 71% | 72% | 76% | Accrual | National stds: other | Accrual | National stds: other |
| Estonia | Accrual | Completed | 91% | | 91% | 87% | 90% | 91% | | 91% | 87% | 90% | Accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |
| Finland | Accrual | Completed | 77% | | 85% | 63% | 75% | 77% | | 85% | 67% | 77% | Accrual | National stds: other | Accrual | National stds: other |
| France | Accrual | Completed | 90% | | 82% | 92% | 89% | 90% | | 82% | 92% | 89% | Accrual | National stds: other | Accrual | National stds: other |
| Latvia | n.a. | n.a. | 88% | | 96% | 85% | 89% | 93% | | 98% | 91% | 94% | Accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |
| Lithuania | n.a. | n.a. | 91% | | 91% | 75% | 87% | 91% | | 91% | 75% | 87% | Accrual | IPSAS modified for the local context | Accrual | IPSAS modified for the local context |
| Spain | Accrual | Completed | 78% | 79% | 80% | 65% | 75% | 78% | 79% | 80% | 65% | 75% | Accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |
| Sweden | Accrual | Completed | 84% | | 84% | 71% | 82% | 84% | | 84% | 71% | 82% | Accrual | National stds with reference to IPSAS | Accrual | National stds with reference to IPSAS |

Note: The 2018 OECD paper has been included here as additional information on some countries, whilst the cluster analysis was based on the two principal sources based on the completeness of their analysis – the PwC Eurostat review of 2020, and the CIPFA/IFAC Index of 2021.

# Appendix III: The Potential Benefits from Accrual Accounting

Accrual accounting reforms are not an end in themselves—the associated costs must be justified by the benefits they bring. There is widespread recognition that large accounting reforms, which focus on a switch to the accrual basis of accounting and the adoption of international standards, are costly undertakings. These costs originate from new IT systems, new procedures, and the need to hire or train staff to both lead and then implement the reforms across different levels of government and types of institution. Moreover, such reforms can be expected to last many years, usually in a phased manner to make the reforms more manageable.

Previous studies have found that there are various benefits to accrual accounting reforms, but that such benefits need to be managed, preferably as part of a wider reform of Public Financial Management (PFM). The benefits of accrual accounting, both planned and realized, fall into three broad areas—better decision-making by managers in the public sector; greater transparency over the use of public resources; and improved accountability for the use of public resources. Many of the benefits attributed to accrual accounting reforms come from its wider coverage of stocks and flows, and the potential for more reliable and comparable reporting.

- Information on the full range of assets and liabilities, and related flows. Whereas traditional cash-based government accounting typically focuses on cash receipts and payments, and cash balances, and is usually coupled with additional accounting for public debt, accrual accounts extend to cover all material assets and liabilities (fixed assets, investments, pensions liabilities, loans, accounts receivable/payable, etc.), and thus provide a broader and more complete picture of government or public wealth and the flows which explain how this changes over time.
- More reliable and comparable data. Accrual accounting reforms replace local or national accounting rules or practices with rules based on international accounting standards. These standards in turn are based on conceptual frameworks which aim to ensure that financial reports present a true and fair view of an entity's financial performance and position (or, in the case of fiscal statistics, the true macroeconomic impact of fiscal policy). This means that accrual reforms based on international standards should provide financial information that is both more reliable than those based on rules which governments choose for themselves, and more suitable for comparisons with others following the same standards.

The full analysis of benefits of accrual accounting is not repeated here because our focus is on the benefits in the specific area of fiscal statistics. Appendix II provides a fuller taxonomy of benefits of accrual accounting, drawing on previous analyses and thinking. The remainder of this report focus on the potential benefits for the compilation of fiscal statistics.

Similar arguments are advanced for the use of accruals as the basis for fiscal statistics. The potential benefits of using accrual accounting data for fiscal statistics fall in theory into four areas of benefits:

- The availability of more relevant and useful fiscal statistics – by displacing older fiscal statistics presented on a cash basis with fiscal statements and data presenting cash-flow statements and data using the accrual basis, which provide a better view of the total macroeconomic impact of fiscal policy on both liquidity and sustainability.
- The possibility of more reliable fiscal statistics –the substitution of estimates and modelling of accruals statistics (based on underlying cash data) with statistics based on actual accruals data, reduces the scope for imprecision and error.

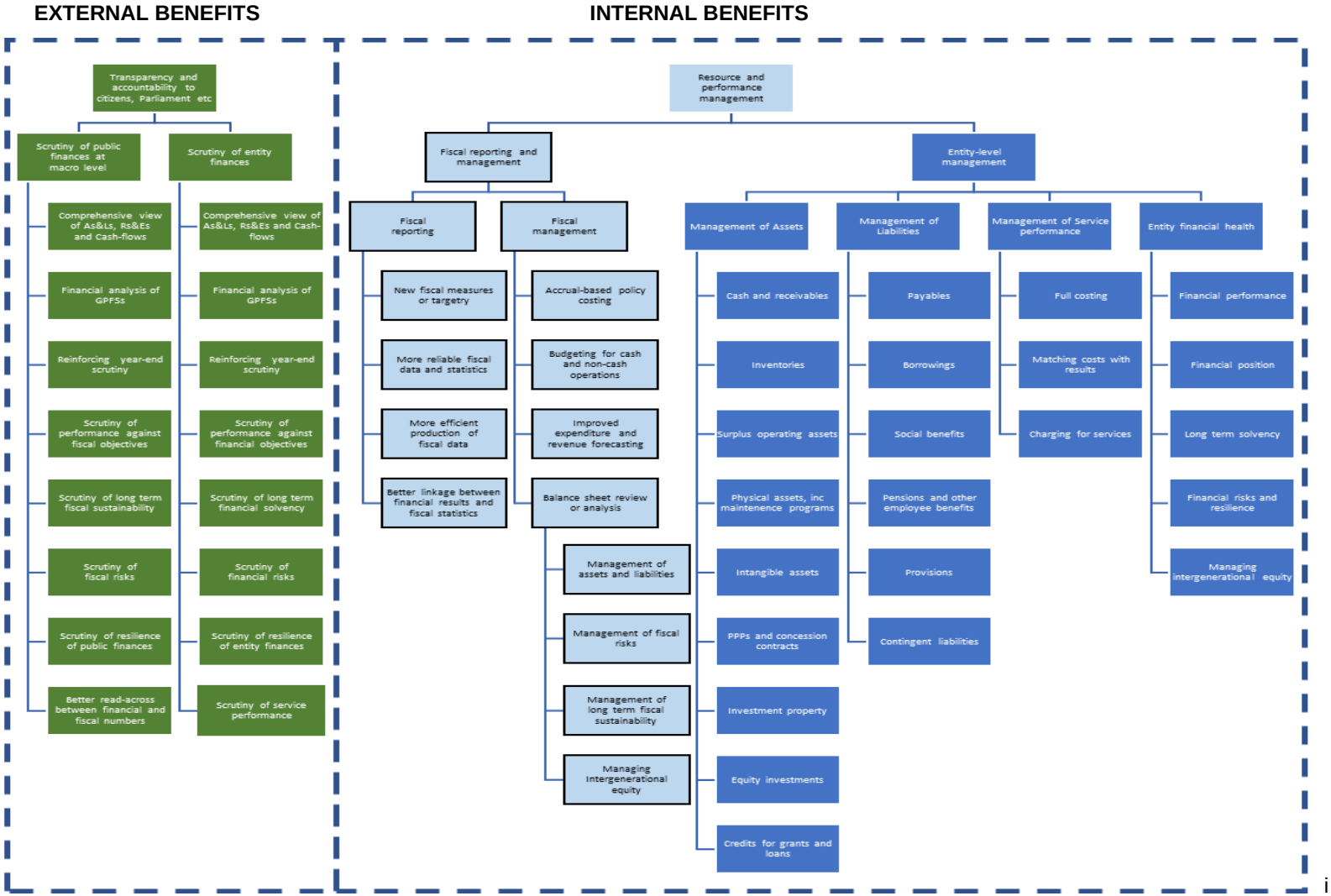
- The scope for more efficient compilation of fiscal statistics – using accruals source data also avoids the need for surveys, adjustments, modelling, and other statistical techniques to produce accruals statistics from underlying cash-based sources.
- The possibility of new fiscal statistics or analytical approaches, through the availability of new data or data not previously available or reported under cash-based fiscal statistics or reporting regimes, such as full balance sheets.

Figure 9 overleaf shows a taxonomy of benefits from accrual accounting, drawing on this earlier work on benefits. The primary distinction is between:

- **Internal benefits** (on the right-hand side of the Figure) – that is, those benefits enjoyed in the first instance by those inside government (such as policymakers, managers, economists, statisticians, or auditors) through their management of public resources.
- **External benefits** (on the left-hand side of the Figure) – that is, those benefits which are enjoyed by those outside government (such as citizens, Parliamentarians, rating agencies, international organizations, and others with an interest in government finances) typically through providing transparency and accountability for the use of public resources and improving the comprehensiveness and reliability of fiscal information.

These internal benefits can be further sub-divided into the benefits which pertain to line ministries and their delivery agencies in their day-to-day management of their entity's activities and resources (the dark blue boxes); and those benefits which occur at the Ministry of Finance and its related central agencies, in their oversight roles for the public finances, which we have called "fiscal benefits" (the light blue boxes), which can further be divided into benefits for fiscal statistics and benefits for fiscal management.

**Figure 9: Benefits of Accrual Accounting**



# Appendix IV: Analysis of Adjustments

These tables analyze all country and sub-sector adjustments greater than 1 percent of GDP, and any type of adjustment equal to or greater than 0.5 percent of GDP is highlighted in yellow. The first 2 tables for each year show sub-sectors based on cash or mixed data sources; the third table shows those on accruals.

**Analysis for 2022**

| **Reason for adjustment** | **IT - CG** | **PL - CG** | **DK - CG** | **PT - CG** | **PT - SS** | **CY - CG** | **FI - CG** | **FI - LG** |
|---|---|---|---|---|---|---|---|---|
| (reporting basis) | Cash | Cash | Mixed | Cash | Cash | Cash | Mixed | Mixed |
| | | | | | | | | |
| Financial tx's in working balance | 0.5% | -0.2% | -0.9% | 1.4% | 1.1% | 2.7% | -0.1% | 0.0% |
| Non-financial tx's in working balance | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | -1.2% |
| Difference between interest paid and accrued | -1.1% | -0.1% | 0.0% | 0.5% | 0.0% | 0.1% | 0.5% | 0.0% |
| Accounts receivable | -0.2% | 0.1% | -2.9% | 0.3% | 0.1% | 1.8% | -0.1% | -0.1% |
| Accounts payable | -3.6% | 0.6% | 0.0% | 0.2% | 0.0% | -0.8% | 0.9% | 0.0% |
| Net balance of bodies outside reported working balance | 0.1% | -2.9% | 0.1% | 0.7% | 0.0% | -0.4% | -0.1% | -0.5% |
| Other adjustments | -0.3% | -0.3% | 0.3% | -1.3% | 0.0% | 0.1% | 3.8% | -0.1% |
| **Total** | **-4.6%** | **-2.9%** | **-3.4%** | **1.9%** | **1.2%** | **3.5%** | **4.9%** | **-1.8%** |

| **Reason for adjustment** | **LU - CG** | **SE - CG** | **SE - SS** | **LV - CG** | **NL - CG** | **SK - CG** | **EL - CG** | **EL - LG** |
|---|---|---|---|---|---|---|---|---|
| (reporting basis) | Mixed | Cash | Mixed | Cash | Cash | Cash | Cash | Cash |
| | | | | | | | | |
| Financial tx's in working balance | -1.6% | -1.8% | 0.0% | -0.1% | -0.8% | 0.0% | -0.5% | 0.0% |
| Non-financial tx's in working balance | 0.3% | 0.0% | 0.0% | -0.1% | 0.5% | 0.5% | -0.5% | 0.0% |
| Difference between interest paid and accrued | 0.0% | -0.1% | 0.0% | 0.0% | 0.1% | 0.1% | -0.5% | 0.0% |
| Accounts receivable | 0.0% | 1.4% | 0.0% | 0.6% | 0.7% | 1.0% | 0.8% | 0.0% |
| Accounts payable | -0.1% | -2.3% | 0.0% | -0.7% | 0.2% | 0.1% | 0.7% | -0.1% |
| Net balance of bodies outside reported working balance | 0.4% | 0.0% | 0.0% | -0.7% | 0.1% | 0.8% | 1.0% | 0.0% |
| Other adjustments | 0.0% | 0.0% | 3.4% | -0.1% | 0.2% | -0.6% | 1.2% | -1.1% |
| **Total** | **-1.1%** | **-2.7%** | **3.3%** | **-1.2%** | **1.0%** | **1.8%** | **2.1%** | **-1.2%** |

| Reason for adjustment | LU - SS | EE - CG | FR - LG | FR - SS |
|---|---|---|---|---|
| (reporting basis) | Accrual | Accrual | Accrual | Accrual |
| | | | | |
| Financial tx's in working balance | 0.0% | 0.0% | 0.0% | 0.0% |
| Non-financial tx's in working balance | -0.1% | 0.0% | -1.4% | 0.0% |
| Difference between interest paid and accrued | 0.0% | 0.0% | 0.0% | 0.0% |
| Accounts receivable | 0.0% | 0.0% | 0.1% | 0.0% |
| Accounts payable | 0.0% | -0.3% | 0.0% | 0.0% |
| Net balance of bodies outside reported working balance | 0.6% | 0.4% | -0.1% | 1.0% |
| Other adjustments | 4.1% | 1.1% | 0.0% | 0.0% |
| **Total** | **4.5%** | **1.1%** | **-1.4%** | **1.0%** |

## Analysis for 2023

| Country & Sector | PT - SS | CY - CG | SI - CG | SK - CG | BG - CG | EL - LG | PL - CG | NL - CG | IT - CG |
|---|---|---|---|---|---|---|---|---|---|
| Reporting basis | Cash | Cash | Cash | Cash | Cash | Cash | Cash | Cash | Cash |
| Financial tx in working balance | 3.6% | 1.8% | 0.2% | 0.0% | 0.0% | 0.0% | -0.1% | -2.0% | 0.0% |
| Non-financial tx in working balance | 0.0% | 0.0% | 0.2% | -0.3% | 0.0% | 0.0% | 0.0% | -0.2% | 0.0% |
| Difference interest paid and accrued | 0.0% | 0.0% | -0.1% | 0.0% | -0.1% | 0.0% | -0.1% | 0.0% | -0.2% |
| Accounts receivable | 0.1% | 0.9% | 0.6% | 1.0% | 0.8% | 0.0% | 0.6% | 0.4% | 0.0% |
| Accounts payable | 0.0% | 0.1% | -0.1% | 0.2% | 0.1% | -0.2% | -0.5% | -0.1% | -2.5% |
| Net balance of bodies outside reported working balance | 0.0% | -0.1% | 0.4% | 0.2% | -0.1% | 0.0% | -1.1% | 0.0% | 0.0% |
| Other adjustments | 0.0% | 0.1% | -0.1% | 0.0% | 0.2% | -1.0% | -0.2% | -0.3% | 0.0% |
| **Total** | **3.7%** | **2.7%** | **1.1%** | **1.1%** | **1.0%** | **-1.1%** | **-1.5%** | **-2.2%** | **-2.7%** |

| Country & Sector | EE - CG | FI - SS | HU - CG | SE - SS | FI - LG | FI - CG |
|---|---|---|---|---|---|---|
| Reporting basis | Mixed | Mixed | Mixed | Mixed | Mixed | Mixed |
| Financial tx in working balance | 0.0% | 0.0% | 0.7% | 0.0% | 0.0% | 0.2% |
| Non-financial tx in working balance | -0.1% | 0.4% | 0.0% | 0.0% | -1.7% | 0.0% |
| Difference interest paid and accrued | 0.0% | 0.0% | -0.7% | 0.0% | 0.0% | 0.4% |
| Accounts receivable | 0.0% | 0.0% | -1.1% | 0.0% | -0.5% | 0.6% |
| Accounts payable | -0.1% | 0.0% | 0.1% | 0.0% | 0.0% | -0.9% |
| Net balance of bodies outside reported working balance | -0.1% | -0.2% | 0.6% | 0.0% | -0.2% | -0.1% |
| Other adjustments | 1.5% | 0.9% | -0.5% | -1.7% | 0.1% | -3.3% |
| **Total** | **1.4%** | **1.0%** | **-1.0%** | **-1.7%** | **-2.4%** | **-3.1%** |

| Country & Sector | SE - LG | FR - LG | LU - SS |
|---|---|---|---|
| Reporting basis | Accrual | Accrual | Accrual |
| Financial tx in working balance | 0.0% | 0.0% | 0.0% |
| Non-financial tx in working balance | -1.7% | -1.4% | -0.1% |
| Difference interest paid and accrued | 0.0% | 0.0% | 0.0% |
| Accounts receivable | 0.0% | 0.0% | 0.0% |
| Accounts payable | 0.0% | 0.0% | 0.0% |
| Net balance of bodies outside reported working balance | 0.0% | -0.2% | 0.6% |
| Other adjustments | 0.7% | 0.0% | -2.8% |
| **Total** | **-1.0%** | **-1.6%** | **-2.3%** |

# Appendix V: International Experience with Balance Sheet Aproach to Fiscal Analysis

### Whole Economy Balance Sheet Approach

This approach has been used as part of the Fund's bilateral surveillance since the early 2000s.[43] It can be used to look at the strengths and weakness of financial balance sheets (i.e., excluding non-financial assets) for the economy as a whole and for the sectors of the economy (including the GGS); but it can also look at the interactions and interdependencies between sectors, using "whom-to-whom" techniques. The approach includes a focus on balance sheet mismatches, specifically to look at fragility and risk in the following areas:

- Maturity mismatches. A gap between short-term liabilities and matching liquid assets, which may cause liquidity issues, can be vulnerable to rollover, and bring interest rate risk.
- Currency mismatches. Exposure mismatches in foreign currency which bring risk from changes in the exchange rate.
- Capital structure mismatches. Excessive leverage can increase vulnerability to revenue risks.
- Solvency problems. Solvency risk in one sector's debtors can quickly spread to creditors in another sector (spillovers).

Sectoral analyses can also be used to assess solvency and liquidity, as well as test for consistency with the macro-economic outlook. A good example of how this technique can be applied at country level, and by national authorities, can be seen in the work done by the Central Bank of the Philippines. [44]

### Public Sector Balance Sheet Database

The Fund compiled this database using various sources, including fiscal statistics, to assemble a fuller picture of countries' assets and liabilities. The database was used as the basis for the Fiscal Monitor edition of October 2018,[45] and the methodology was described in more detail in the Technical Note of June 2020.[46] The original database was updated in 2023.

The Fiscal Monitor article and subsequent technical note suggest various ways to analyze and view public sector balance sheets. The principal areas of interest are:

- Inter-country comparisons of Net Worth and its components, although such comparisons must be used with care because of differences in measurement practices;
- A country's Net Worth, and Net Financial Worth, the changes in these aggregates over time, and the reasons for such changes—to understand how and why public wealth is changing;

[43] See Fund Policy Paper of June 2015, *Balance Sheet Analysis in Fund Surveillance*

[44] Quarterly balance sheet analyses are available through www.bsp.gov.ph

[45] The October 2018 edition of the Fund's Fiscal Monitor publication, entitled "*Managing Public Wealth*"

[46] See 2020 IMF Working Paper (WP/20/130) *Public Sector Balance Sheet Database: Overview and Guide for Compilers and Users* (Miguel Alves, Sagé De Clerck, and Juliana Gamboa).

- Composition of a country's balance sheet, and the relationship between these component parts, to help understand and manage fiscal risks, with special attention to net liquid assets and net foreign exchange assets;
- When the balance sheet is for the whole public sector, the contribution of SOEs to the changes in Net Worth and other balance sheet trends;
- The use of consolidation techniques to remove potentially misleading data for key aggregates and provide a truer picture of the public sector financial position and performance;
- The use of time-series analyses and ratio checks to understand the way in which balance sheet items are changing and performing;
- Risk-adjusted balance sheets and stress testing of balance sheets, to assist in the assessment of fiscal risks; and
- The addition of forward projections to the PSBS to produce a country's "Temporal Balance Sheet" which provides a longer-term view of the state's finances and helps assess long-term fiscal sustainability.[47]

The latest version of the database is available at Public Sector Balance Sheet (PSBS) - PSBS Home - IMF Data. The Fund website also includes reports on the balance sheets of specific countries, including Ghana, Finland, Indonesia, Japan, Norway and the United States of America.
A further IMF Working Paper reviewed the link between balance sheet strength and macroeconomic performance.[48]

**Specific Country Examples of Balance Sheet Analysis**

Most countries adopting accrual accounting are still amid their reforms or focused on the production of reliable accrual financial statements; only the most long-standing adopters have moved on to carry out Balance Sheet Analyses or Reviews using these financial statements. Other countries are using the Public Sector Balance Sheet approach based on fiscal statistics. These reviews include a number of different fiscal analyses based on balance sheet data.

- New Zealand – produce an Investment Statement every four years, based on financial statements – the most recent was in 2022.
- UK – carried out a Balance Sheet Review from 2017 onwards, based on Whole of Government financial statements, with the results reported in 2020 – Figure 8 shows the systematic approach that was applied to the review of the management of assets and liabilities. A further output was a review of contingent liabilities and a new system for managing them.
- USA – the annual financial statements and report of the federal government include analysis of the government's balance sheet.
- Ireland – produced a 2021 review of Ireland's PSBS, using fiscal statistics.

[47] See the 2021 IMF Working Paper WP/21/128, *The Cost of Future Policy: Intertemporal Public Sector Balance Sheets in the G7*, by Yugo Koshima, Jason Harris, Alexander F. Tieman, and Alessandro De Sanctis.

[48] Fund Working Paper of August 2019, WP/19/170, *Public Sector Balance Sheet Strength and the Macro Economy,* Seyed Reza Yousefi.

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