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# Executive summary

This biennial report provides a quality review of the national balance of payments (b.o.p.), international investment position (i.i.p.) and international reserves template of the Eurosystem (international reserves), as well as the associated euro area aggregates.<sup>1</sup> The report fulfils the formal requirement for the Executive Board of the European Central Bank (ECB) to inform its Governing Council of the quality of these statistics, as set out in Article 6(1) of [Guideline ECB/2011/23](#) (hereinafter, the ECB Guideline on external statistics).<sup>2</sup> Furthermore, the report provides information supporting the macroeconomic imbalance procedure (MIP) data quality assurance process, as laid down in the [Memorandum of Understanding between Eurostat and the European Central Bank/Directorate General Statistics on the quality assurance of statistics underlying the Macroeconomic Imbalance Procedure](#) (the MoU).

The main principles and elements guiding the production of ECB statistics are set out in the [ECB Statistics Quality Framework](#) (SQF) and [quality assurance procedures](#), which are published on the ECB's website.<sup>3</sup> This report therefore provides a quality analysis of the statistical output covering: (i) methodological soundness; (ii) timeliness and punctuality; (iii) data and metadata availability; (iv) accuracy and reliability; (v) internal consistency (validation, and net errors and omissions); (vi) external consistency/coherence with other comparable statistical domains (euro area accounts, foreign trade in goods statistics, monetary financial institution (MFI) balance sheet items, money market fund (MMF), investment fund (IF) and securities holdings statistics); and (vii) asymmetries (intra-euro area and bilateral asymmetries).

The descriptive and quantitative indicators used throughout this report are based on quarterly and monthly data transmitted up to 31 October 2023. The last reference period included in the analysis is Q2 2023 for quarterly data, or June 2023 for monthly data. Supporting tables and charts are provided in Annex 1, while details of how the indicators are computed can be found in Annex 2.

Given the specific MIP requirements and the responsibilities entrusted to the ECB under the MoU, the MIP Box at the end of the main body of the report presents some of the indicators used to measure the fitness for purpose of the data for all EU Member States. The box draws on annual data up to 2022 and revisions up to 2021, and focuses on the following quality dimensions: (i) data availability and confidentiality; (ii) sources and methods; (iii) accuracy and reliability; (iv) internal consistency; and (iv) external consistency.

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<sup>1</sup> The principles underpinning this report can be found in [Public commitment on European Statistics by the ESCB. The ECB Statistics Quality Framework and quality assurance procedures](#), published in April 2008, builds on the European System of Central Banks' public commitment with respect to its statistical function.

<sup>2</sup> Recast of [Guideline ECB/2004/15 of 16 July 2004](#), as amended by [Guidelines ECB/2013/25 of 30 July 2013](#), [ECB/2015/392 of 26 November 2015](#), [ECB/2018/19 of 2 August 2018](#), [ECB/2020/52 of 14 October 2020](#) and [ECB/2022/23 of 5 May 2022](#).

<sup>3</sup> See the page entitled "[The ECB statistics Quality Framework and quality assurance procedures](#)" on the ECB website.

## Statistical developments

This section highlights some of the statistical developments that have occurred since publication of the [Quality Report 2021](#).

Following Croatia's adoption of the euro on 1 January 2023, b.o.p. and i.i.p. data for the enlarged euro area were released for the first time in March 2023, starting from the January 2013 reference period. The changes in the euro area aggregate required close cooperation with national compilers, in particular those from Croatia, given that the back data reported by Croatia had to be incorporated into the enlarged euro area-20 aggregate statistics. Moreover, national data reflecting the new composition (euro area 20) had to be included, either based on revised country transmissions or derived by the ECB by applying an estimation method. The enlargement of the euro area also means that a detailed assessment of Croatia's b.o.p. and i.i.p. data is now part of this Quality Report.

Since April 2023 the ECB has published euro area time series for the additional details requested pursuant to the amendment introduced by [Guideline ECB/2018/19](#), starting from the Q1 2019 reference period. These series include additional details by sector, instrument and geographic counterpart that address many of the most pressing outstanding user needs. The analytical value of the new details is particularly visible in the more granular sector breakdowns, revealing substantial heterogeneity within the financial sector other than MFIs and the non-financial sector, and in terms of increased geographical coverage.<sup>4</sup> Looking ahead, the provision of longer time series remains key to improving value to users. In support of this goal, the roadmap agreed with the European System of Central Banks (ESCB) Statistics Committee (STC) requires national compilers to provide, by September 2024 at the latest, the main time series for the additional details starting from the Q1 2013 reference period. Croatia, Estonia, Finland, Italy, Latvia, Luxembourg, Portugal and Slovenia have already provided the full set of back data ahead of this deadline.

Efforts continued within the ESCB to provide data on Special Purpose Entities (SPEs) in the external statistics. Under the amendment introduced by [Guideline ECB/2022/23](#) in May 2022 requiring separate information on SPEs to be included in b.o.p. and i.i.p. statistics, mandatory data collection started in March 2023, with the reference data for Q4 2022, while the back data from Q1 2020 was requested to be transmitted by September 2023. Euro area aggregates and national publishable data on SPEs were published for the first time in April 2024.

The ESCB has progressed with its activities to enhance the monthly b.o.p. statistics given the importance of higher frequency data for the ECB decision-making bodies. The ECB is organising webinars devoted to specific aspects of monthly b.o.p. statistics compilation in which national experts can share best practices with experts of interested countries seeking to implement similar approaches to overcome deficiencies existing within their own systems.

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<sup>4</sup> See, for example, Emter, L., Schiavone, M. and Schmitz, M. (2023), "The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics", *ECB Economic Bulletin*, Issue 4, ECB, 2023.

In October 2023 the ECB released a revamped and updated electronic version of the [EU Balance of Payments and International Investment Position statistical sources and methods \(the B.o.p. and i.i.p. e-book\)](#). The B.o.p. and i.i.p. e-book is organised by topic (rather than by country), providing an overview of general methodological aspects and highlighting the commonalities and specific deviations of country sources and methods in a harmonised format.

Within the ESCB, the Working Group on External Statistics (WG ES) and the Working Group on Financial Accounts and Government Finance Statistics (WG FGS), along with other Statistics Committee (STC) substructures, are working together closely on the following common issues:

- eliminating the remaining inconsistencies between the national b.o.p and i.i.p. statistics and the rest of the world account and supporting the review of the System of National Accounts (SNA) and Balance of Payments Manual (BPM);
- implementing the plan towards compiling data on foreign-controlled non-financial corporations (FCCs), as approved by the STC in June 2023;
- following-up on the conclusions and recommendations of the final report of the Virtual Group on Unlisted Equity, taking into account the clarifications given by the Task Force on Foreign Direct Investment (FDI).

Further improvements to data quality have been made by countries in capturing the activities of SPEs (e.g. Malta supplemented the annual survey with a new administrative data source). Cyprus, Ireland and Malta have started to report relevant figures for the new FDI breakdown by debt instrument, and in the Netherlands, a new method for estimating quarterly figures has improved the geographical allocation and the stock/flow reconciliation. Regarding the compilation of financial derivatives data, Luxembourg has started to report consistent stock and flow data for MFIs and has improved the coverage of resident captive financial institutions, while Germany has started reporting transactions in financial derivatives for the government sector.

This notwithstanding, there is still room for further improvement of the various quality dimensions analysed in this report. For example, in terms of **methodological soundness**, Malta continues to face certain challenges in seeking to improve the general quality of its data, enhance SPE data collection (e.g. geographical details) and eliminate breaks in the data. Cyprus and Luxembourg need to extend SPE coverage further. With regard to services, feedback from countries is needed to assess the materiality of service margins on buying and selling financial assets and the consequent need to start recording these services if the data are material.

In terms of **functional classification**, a number of countries are not yet able to classify as direct investment (the appropriate functional category) transactions and related positions in debt securities between companies engaged in a direct investment relationship. Furthermore, the recording of trade credits between

companies in a direct investment relationship under other investment instead of under direct investment is still an issue for Spain<sup>5</sup> and Luxembourg.

Concerning **internal consistency**, a large majority of countries provide the ECB with fully consistent data. However, Malta needs to ensure regular compliance with the validation and integrity rules for quarterly b.o.p. and i.i.p. data, while Germany needs to ensure the proper geographical allocation for transaction and position and avoid the use of “W19 Rest of the World (non-allocated geographically)”.

With regard to **consistency and coherence with other datasets**, b.o.p. and i.i.p. data are in line with other datasets overall, thus ensuring comparability across statistical domains. However, it continues to be of utmost importance that all countries follow the agreed steps to ensure full consistency vis-à-vis balance sheet items (BSI) statistics and sectoral accounts. In terms of other datasets, the ECB encourages b.o.p. and i.i.p. colleagues to interact with their counterparts to structurally reduce discrepancies and/or to reconcile and document differences between datasets where there are objective methodological differences.

Table 1 below provides a list of notable issues affecting certain euro area countries, as well as the scope for improvement, based on the analysis carried out in the following chapters.

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<sup>5</sup> In Spain the data declaration form has already been modified to adequately cover the distinction of direct investment trade credits. In September 2024, with the benchmark revision, the issue will be solved also in the data that will be disseminated.

**Table 1**  
**Notable issues and scope for improvement (for euro area countries)**

Concept	Ref.	Recommendation	Applicable countries/NCBs
<b>Methodological soundness and statistical procedures (Section 2)</b>			
<b>Residency</b>	A1.1	Continue improving SPE geographical detail	Cyprus, Malta, the Netherlands
	A1.2	Decrease as much as possible the remaining coverage gap for the actual SPE population	Cyprus, Luxembourg, Malta
	A1.3	Enhance consistency over time by reducing breaks in the time series	Cyprus, Malta
<b>Services</b>	A2.1	Enhance data sources and procedures to record service margins on buying and selling financial assets, if assessed to be material <sup>1)</sup>	All countries (excl. Germany, Greece, Spain, Italy, Cyprus, Latvia, Austria)
<b>Portfolio investment</b>	A3.1	Apply the accrual principle when reporting financial account transactions for portfolio investment	Germany <sup>2)</sup>
	A3.2	Provide accurate values for monthly first assessments of transactions in MMF shares (assets)	Croatia
<b>Financial derivatives</b>	A4.1	Implement structural changes (in the main data sources and procedures) to enhance the financial derivatives recording for all sectors	All countries
<b>Functional classification</b>	A5.1	Continue assessing the relevance of debt securities between companies engaged in a DI relationship to report them appropriately under DI if relevant	A number of countries report zero values (Germany <sup>3)</sup> , Greece <sup>4)</sup> , France <sup>5)</sup> , Luxembourg <sup>6)</sup> ) while the rest report very small amounts
	A5.2	Classify trade credits between companies in a direct investment relationship as direct investment instead of other investment	Spain, Luxembourg
<b>Foreign direct investment</b>	A6.1	Assess and confirm whether transactions/positions between fellow enterprises in equity are negligible	Germany, France
	A6.2	Confirm or correct the negative liability positions for reverse direct investment in equity (Q2 2019 to Q4 2020)	Malta
	A6.3	Correctly report transactions/positions in debt instruments between fellow enterprises prior to 2019	The Netherlands
	A.6.4	Correctly classify the trade credit instruments that are currently reported under loans	Greece
<b>Other investment</b>	A7.1	Correctly report the assets and liabilities of insurance, pension and standardised guarantee schemes (F6) for insurance and pension fund corporations, and improve coverage, from the assets side, of the rest of the sectors of the economy	Ireland, Greece, France, Malta, Lithuania, Luxembourg,
	A7.2	Properly report holdings of euro banknotes abroad (stocks and flows)	France, Malta
<b>Reconciliation of positions and flows</b>	A8	Continue improving the breakdown between price changes, exchange-rate changes and other volume changes to ensure a realistic reconciliation of positions and flows	Germany, the Netherlands
<b>Securities held with non-resident custodians and other foreign assets in particular, of households</b>	A9	Keep improving the estimation models for assets held abroad by residents, in particular for the household sector	All countries (excl. Spain, Latvia <sup>7)</sup> )
	A9.1	Securities: integrate third-party holdings from the securities holdings statistics by sector (SHSS), in particular for households	Ireland, Greece, Croatia, Malta, the Netherlands, Austria <sup>9)</sup> , Portugal <sup>9)</sup> , Slovakia, Finland
	A9.2	Deposits with non-euro area banks: integrate available mirror data provided by the Bank for International Settlements (BIS)	Estonia, Ireland, Greece, Malta, the Netherlands, Slovakia
<b>Goods</b>	A10	Revise monthly data for goods in line with the community concept (2015 to 2017)	Ireland
<b>Investment fund income</b>	A11	Improve estimates for received income attributable to shareholders from euro area investments funds	Belgium, Cyprus, Germany, Croatia, Ireland, Lithuania, Latvia, Malta
<b>Quality of monthly data</b>	A12	Enhance the quality of monthly b.o.p. data by allocating the transactions to the right month by using, as much as possible, existing monthly data sources and appropriate statistical methods	Cyprus, Ireland, the Netherlands



Concept	Ref.	Recommendation	Applicable countries/NCBs
<b>Data and metadata availability (Section 4)</b>			
Completeness	B1	Complete the reporting of reliable data on equity by type: listed, unlisted and investment fund shares	Malta
Flags	B2	Further review the use of the "confidentiality" flag in the publishable dataset and monthly b.o.p.	Ireland, Cyprus, Malta, the Netherlands, Austria
<b>Internal consistency (Sections 6.1 and 6.2)</b>			
Validation and integrity rules	C1	Ensure proper geographical allocation in Geo2 and Geo3 and avoid the use of "W19 Rest of the World (non-unallocated geographically)"	Germany
	C2	Ensure compliance with validation and integrity rules for quarterly b.o.p./i.i.p. data	Malta
Net errors and omissions (n.e.o.)	C3	Investigate the reasons behind the level of n.e.o. and their bias	Germany, Croatia, Malta, Austria, Finland
<b>External consistency: b.o.p./i.i.p. data with euro area sector accounts (Section 7.2)</b>			
b.o.p./i.i.p. with rest of the world (RoW) data	D1	Address the pending discrepancies as agreed in the objectives of the MIP visits or, at the latest, by the next benchmark revision	Belgium, Germany, Ireland, Greece, France, Luxembourg, Malta, (See Charts 9 to 11 for more details)
<b>External coherence: b.o.p./i.i.p. data with MFI balance sheet data (Section 7.3)</b>			
b.o.p./i.i.p. with MFI data	E1	Continue regularly assessing the differences between the BSI and b.o.p./i.i.p. datasets and their development	All countries, relevant for the large absolute values of France
<b>External coherence: b.o.p./i.i.p. data with securities holdings statistics (Section 7.5)</b>			
b.o.p./i.i.p. with SHSS data	F1	Improve the coverage in the i.i.p. of equity and investment fund shares held by financial corporations other than MFIs	Germany
<b>External coherence: b.o.p./i.i.p. data with insurance corporation and pension fund statistics (Section 7.6)</b>			
IC PF statistics	G1	Assess and reconcile the differences observed in the i.i.p. for equity instruments	France
<b>Asymmetries (Sections 8.1 and 8.2)</b>			
Asymmetries	H1	Make efforts to address asymmetries	All countries, relevant and recurrent for Malta

Notes:

- 1) In accordance with the BPM6 standards, margins on buying and selling financial assets should be included in the service account. However, due to the complexity of including this item in the accounts, the WG ES, in cooperation with other international organisations, has investigated approaches to defining best practices by providing specific guidance to enhance the estimation of this financial service. The outcome did not reach a sufficiently clear conclusion and the methodological work now continues as part of the BPM6 update. The countries excluded conducted studies on the GNI materiality of margins on buying and selling financial assets and could demonstrate that those services are not material.
- 2) The implementation of the full accrual principle in the portfolio investment liability might take further time, owing to the complexity of the issue.
- 3) Germany assesses that intra-group financing via debt securities is a phenomenon almost non-existing.
- 4) Greece, intra group financing via debt securities is assessed by the FDI survey, but the amounts seem to be negligible and therefore it is assumed that the phenomenon is almost non existing.
- 5) France assumes intra-group financing via debt securities to be close to non-existent. Changing this assumption would be costly for an overall negligible impact on the overall balance of payment.
- 6) Some Luxembourg financial institutions provide BCL with statistical forms including hybrid financial products, which would be either equity or debt instruments. After analysing thoroughly those reports, BCL concluded that the correct classification was either Direct Investment / Loan or Portfolio Investment / Debt securities.
- 7) Latvia has improved the estimation models by integrating SHS data and by using BIS mirror data and mirror data on real estate.
- 8) In Austria, SHSS data for households are integrated from 2022Q1 onwards. With the next benchmark revision, the country planned to incorporate SHSS data starting from 2020Q1.
- 9) In Portugal, the third-party holdings information from the securities holdings statistics by sector (SHSS) for households will be incorporated in the 2024 benchmark revisions.

## Statistical issues affecting MIP indicators

The ECB, in collaboration with Eurostat, has continued to monitor specific quality aspects of the statistical outputs, as required under the MoU. In fact, some of the quality dimensions addressed in this report are also relevant for assessing the quality of data for MIP purposes (e.g. methodological issues A1 to A10, E1, F1, and J1 in Table 1). Some of the recommendations set out in the table above, such as those related to the functional classification (e.g. A5.1 to A5.2) and to the reconciliation of stocks and flows (A8), do not affect computation of the main MIP indicators, but do play a role in the calculation and analysis of auxiliary indicators. However, the particular features of the annual data and of the MIP process, as well as the scope of the ECB's responsibilities under the MoU (for those of the 27 EU Member States (EU 27) that have designated their respective national central banks (NCBs) to produce the b.o.p. and i.i.p. datasets), create special analytical needs. In particular, longer time series (up to 15 years) are necessary for an accurate construction and analysis of the main MIP scoreboard indicators.

At present, there is no data coverage limitation for the headline indicators, although the calculation of one auxiliary indicator (the net international investment position excluding non-defaultable instruments - NENDI) is still affected by limited data for Malta prior to 2021. In general, most of the countries comply with the validation rules, although there are a few exceptions (Denmark, Malta, and Sweden). There were only a few cases in which the impact of revisions has led to the MIP indicators moving outside the threshold window (Luxembourg and Sweden), and fewer countries than previously have national errors and omissions exceeding 2% of gross domestic product (GDP) (Bulgaria, Hungary and Sweden). Furthermore, improvements are also noticeable in the comparison between b.o.p. and i.i.p. statistics and the sectoral accounts.

For more information on the assessment of data quality for MIP purposes, please see the MIP Box at the end of the main body of the report.

# 1 Introduction

This biennial report provides a review of the quality of statistics on the balance of payments (b.o.p.), the international investment position (i.i.p.) and the Eurosystem international reserves template (international reserves). It fulfils the formal requirement for the ECB Executive Board to inform the Governing Council of the quality of these statistics, as laid down in Article 6(1) of the ECB Guideline on external statistics. Furthermore, the report provides information supporting the MIP data quality assurance process, as required under the [MoU](#). The report follows the [recommendations](#) adopted by the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) in this domain.

The focus of the report is on national data for the euro area countries and euro area aggregates. The data for the EU 27 are commented on in the MIP Box at the end of the report and are also available in the annexed tables.<sup>6</sup>

In compiling their statistics, the euro area countries followed the sixth edition of the International Monetary Fund (IMF) [Balance of Payments and International Investment Position Manual](#) (BPM6) and take into consideration the ECB guideline and the agreements reached by the STC (and its respective substructures).

## Scope of data coverage and structure of the report

This report analyses a number of aspects by which data quality can be measured. These include: (i) a review of methodological issues where national compilers diverge from statistical standards or need to enhance their statistical procedures; (ii) an assessment of compliance by NCBs, in terms of timeliness and coverage, with their obligations to transmit data to the ECB; (iii) the reliability of the statistical data; (iv) the internal consistency of the statistics, particularly over time, across frequencies and between accounts (net errors and omissions); (v) external consistency and coherence, i.e. vis-à-vis other statistical domains and datasets, namely foreign trade statistics, euro area sector accounts, MFI balance sheet statistics (including MMFs), IF statistics and securities holdings statistics; and (vi) asymmetries at the level of the intra-euro area aggregates and bilateral asymmetries between euro area countries.

The analysis covers monthly and quarterly data. Section 3 (timeliness and punctuality), Section 4 (data and metadata availability) and Section 6.1 (validation and integrity rules) focus on two years of observations (July 2021 to June 2023, for monthly data, and Q3 2021 to Q2 2023, for quarterly data) given that these cover the period since the [Quality Report 2021](#). Section 5 (accuracy and reliability) analyses the impact of three years of revisions (April 2020 to March 2023, for monthly data

<sup>6</sup> Eurostat also publishes a similar biennial report assessing the quality of the b.o.p/i.i.p data that alternates with that produced by the ECB. Both reports cover figures vis-à-vis the rest of the world. In addition, the ECB report analyses figures vis-à-vis the extra-euro area, whereas the Eurostat report assesses figures vis-à-vis outside the EU.

and Q2 2020 to Q1 2023, for quarterly data), and the remaining sections focus on three years of data (Q3 2020 to Q2 2023).

The last data vintage used throughout the report is that available at 31 October 2023 (in line with the MIP cut-off date for the 2023 exercise), and the country coverage is mostly limited to the euro area countries, although the annexed tables provide information on the quality of data for the EU 27.

Given the specific features of the MIP process, some of the indicators used to measure the “fitness for purpose” of the data are presented for all the EU 27 in the MIP Box at the end of the report. The need for this box arises from the fact that annual data display different properties compared with monthly and quarterly data, as well as from having to assess the quality of data from non-euro area EU Member States. The box draws on annual data up to 2022 and focuses on: (i) data availability and confidentiality; (ii) sources and methods; (iii) accuracy and reliability; (iv) internal consistency; and (v) external consistency, i.e. MIP-relevant data quality dimensions. All the indicators presented in the MIP Box relate to national GDP to facilitate analysis of the actual MIP scoreboard indicators.

## 2 Methodological soundness and statistical procedures

Methodological soundness means that the concepts and definitions used to compile b.o.p. and i.i.p. statistics are broadly in line with the principles and guidelines outlined in the BPM6 and take into consideration the ECB guideline and the agreements reached by the STC (and its respective substructures).

One of the key elements of compiling consistent data is to adhere to the agreed standards and to described deviations transparently. A detailed description of the data sources and compilation methods used by all the EU 27 is provided in the B.o.p. and i.i.p. e-book. The assessment included in the current section of the report is based on that e-book, which was last updated in October 2023, as well as on regular ECB contacts with national compilers on general data quality issues.<sup>7</sup>

### 2.1 Residency

The residency of institutional units should be defined in conformity with the BPM6, particularly as regards whether they have a predominant centre of economic interest in the country concerned. SPEs are deemed to be resident in the economy in which they are incorporated.

Most euro area countries correctly apply the residency concept. However, several countries host a large population of SPEs and therefore face certain challenges in achieving full coverage, and sometimes even in identifying the residency of certain entities with different fiscal and legal residencies.

In particular, the compilation of SPE data in Malta was previously based solely on administrative sources (at an annual frequency with at least three years of delay, and with very limited information for identifying the correct functional category, the financial instrument, and the geography of the counterpart). The compilation of the Maltase i.i.p. statistics has now been improved with additional data sources, namely new administrative source data, supplemented by an annual survey. A revision reflecting these changes was implemented in 2023, based on data from Q4 2021 onwards and introducing a level shift in direct investment and portfolio investment positions. An earlier revision by Malta in 2018 of the geographical allocation of positions (proxied by the geography of the agency that set up an SPE) also introduced a series break in Q1 2016 that is still present in the data.

For Cyprus, financial SPE coverage is based on a survey done in 2019 that covered companies with balance sheet assets exceeding €250 million. Those with lower balance sheet assets or that were registered in Cyprus after the 2019 review was

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<sup>7</sup> In addition to regular contact during the euro area aggregates production cycles, the ECB and Eurostat also carry out country MIP visits to gain a better understanding of output quality and of the country-specific contributing factors in the context of the MoU.

completed may not be covered. In September 2021, Cyprus improved the geographical allocation for selected counterparties for data from 2017 onwards, albeit mainly for FDI equity, thereby introducing a break in the series that has not been yet addressed. Furthermore, limitations still apply to the geographical details for SPEs in FDI debt and other investment.

The Banque centrale du Luxembourg (BCL) estimates that the total coverage rate for Luxembourg captive financial institutions is around 90%, given that entities with balance sheet assets of between €300 million and €500 million (and more) were taken onboard from September 2020. The BCL is still working on further processes to enhance the coverage rate for those financial institutions.

The Netherlands has also gradually improved its SPE coverage since 2015, with almost complete coverage currently for annual figures, but with quality issues remaining for preliminary quarterly figures owing to the grossing-up methods used and the link between the new quarterly data and the monthly estimates. These issues call for further attention in order to safeguard the quality of the higher frequency data.

## 2.2 Classification

The new FDI breakdown by debt instrument, required since March 2021 under the amendment introduced by [Guideline ECB/2018/19](#), has made it very clear that not all countries are able to classify direct investment transactions and related positions in debt securities between companies that have a direct investment relationship. Only Austria, Belgium, Cyprus, Estonia, Finland, Ireland, Italy, Lithuania, Malta, the Netherlands, Portugal and Slovakia are reporting figures other than zero, albeit some of these figures are small, with stable positions over time. This may indicate that this instrument is not used very frequently for financing companies that have a direct investment relationship. However, Cyprus, Ireland and Malta have recently adapted their data collection and reporting systems and have started to report relevant figures. A methodological deviation that reports all debt securities under portfolio investment might have a relevant undesirable impact for the compilation at the euro area level, owing in particular to the residual approach used to calculate euro area portfolio investment liabilities.<sup>8</sup> National compilers should therefore continue to assess the relevance of this issue and implement a plan to address it.

Trade credits and advances between companies engaged in a direct investment relationship are included under other investment by Spain<sup>9</sup>, and Luxembourg. The Netherlands has started to allocate them appropriately under direct investment, while Greece is classifying them under loans. Germany classifies all transactions and

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<sup>8</sup> Portfolio investment liabilities within the euro area (broken down by resident sector) are estimated residually by deducting the euro area holdings of residents from the total securities issued by euro area residents. This method is used to circumvent the difficulty in identifying the residency of end holders of securities issued by euro area residents.

<sup>9</sup> In Spain the data declaration form has already been modified to adequately cover the distinction of direct investment trade credits. In September 2024, with the benchmark revision, the issue will be solved also in the data that will be disseminated.

positions in loans/deposits as other investment if at least one of the counterparts with a direct investment relationship is an MFI.

Malta has started to allocate SPE securities assets under portfolio investment or direct investment in accordance with a new data source that makes it possible to identify the relationship with the debtor. Most of the equities previously considered to be portfolio investment assets have been now reclassified under direct investment, and Malta may therefore now be compliant the ECB Guideline on external statistics, which specifies that 85% of portfolio investment data should be collected on a security-by-security (s-b-s) basis. This classification should also be applied to data prior to Q4 2021.

Reverse direct investment as well as transactions and positions between fellow enterprises in equities are not fully recorded under FDI and are considered to be negligible in most of the euro area countries.

In many countries, service margins on buying and selling financial assets are not recorded separately from the financial transactions that generate them. Given the complexity of this issue, the WG ES, in collaboration with other international organisations, has investigated approaches to defining best practices by providing specific guidance to enhance estimation of this financial service. The outcome served as input for the BPM6 update and concluded the need to assess the relevance of this service on a country-by-country basis and that estimation methods should be implemented where the service is assessed as being material<sup>10</sup>. This is the case for Luxembourg and France<sup>11</sup>, which are currently exploring possible data sources and calculation methods.

## 2.3 Coverage

In 2018 the WG ES, in cooperation with the WG FA, mandated a task force to issue recommendations on data sources, data collection and compilation methods for financial derivatives. In December 2020 the STC approved the development of national action plans to address those recommendations in terms of data coverage, statistical recording, ensuring stock/flow consistency, recording of post-trading activities and the use of data derived from business accounting. Non-structural adjustments (review of data collection and compilation practices without a major structural impact) were to have been implemented by September 2022, while

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<sup>10</sup> **Germany** conducted a study on GNI materiality of margins on buying and selling financial assets. The exercise showed that the share of cross-border trading margins on buying and selling transactions on GNI likely range from 0.01% to 0.05%. Hence, the estimations will not be included in the balance of payments as they would not exceed materiality thresholds of the European Commission's GNI Experts Group. In **Greece** as well as in **Spain** those services are non-material, based on a GNI assessment. **Italy** and **Latvia** the investigations in relation to the GNI transversal reservation concluded that the service margins are negligible, and it is reasonable to not develop any procedure. In **Belgium**, these services are supposed not material in a GNI context. In **Estonia**, according to the estimations for 2015-2022, imports of margins amounted to around 0,06% of the GNI, but the estimations have not been yet included in the balance of payments.

<sup>11</sup> France has already agreed the methodology to assess margins on buying and selling financial assets. It will be applied in the benchmark revision.

structural adjustments, such as changes in main data sources, will be implemented as part of the next benchmark revision (2024).

The work done so far in the field of financial derivatives compilation started to be visible in the quality of data reported to the ECB since 2020. From October 2021 Luxembourg began reporting consistent stock and flow data for MFIs, and Germany started reporting transactions in financial derivatives for the government sector. Cyprus, Estonia<sup>12</sup>, France, Luxembourg and Malta do not record any transaction and position in financial derivatives by the government sector, while Slovakia only reports positions. In general, there is scope for increasing the quality of financial derivatives data, and this should be achievable with implementation of the structural adjustments to be incorporated into the national plans.

In April 2015 the STC approved new treatment for recording transactions and positions in euro currency for the purpose of b.o.p. and i.i.p. statistics. Most euro area countries have been following the STC guidance in a timely and accurate manner. Nevertheless, Malta and France do not currently incorporate any estimate for euro currency holdings abroad (stocks and flows). Greece records plausible transactions under net export of euro banknotes (liabilities); in the i.i.p. data, this item is, however, reported under both assets and liabilities, instead of under net liabilities.

Since March 2021, the reporting of a more granular sector breakdown has made it possible to i) identify the activity of insurance corporations and pension funds resident in Europe, and ii) more effectively assess the coverage of cross-border insurance, pension scheme and standardised guarantee scheme (F6) assets in the other sectors of the economy. France<sup>13</sup> does not cover F6 assets for any sector of the economy. Ireland did not report any F6 assets for insurance corporations and pension funds before the Q1 2016 and Q2 2018 reference periods respectively, and do not report any F6 assets for any other sector. Greece only reports the stocks (assets and liabilities) of insurance corporations and pension funds. Lithuania and Luxembourg cover stocks and flows (assets and liabilities) solely for insurance corporations and pension funds<sup>14, 15</sup>. Malta has started to report assets and liabilities of this instrument for insurance corporations and pension funds for the Q2 2023 reference period and covering data from Q4 2021 while Finland has started to report transactions and positions of F6 assets for households and non-financial corporations covering data from Q1 2021, and included derived liabilities of insurance corporations from life insurance policies' premiums paid by non-residents.

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<sup>12</sup> In Estonia, input data from the Public Sector Financial Statements System do not indicate any investments into derivatives except very negligible positions between 2013 and 2016.

<sup>13</sup> France has reported assets on F6 stocks and flows for non-financial corporations up to Q4 2019. Owing to the specificities of the French pension system, this type of instrument is negligible and extremely rare in France.

<sup>14</sup> Estonia has confirmed the amount of insurance taken abroad is marginal and the estimated stocks of insurance reserves is negligible. Insurance transaction between residents and non-residents are covered in the different surveys (survey of non-financial and financial companies, public sector financial statements).

<sup>15</sup> Latvia has confirmed that transactions and positions between residents and non-residents are covered for all sectors of the economy but, in most cases, the amounts are negligible (less than €1 million) and therefore reported as zero.



Furthermore, Malta started to report a detailed breakdown of equity (into listed and unlisted shares, other equity and IF shares) in Q2 2023, but only covering data from Q4 2021.

In general, most countries have difficulties in producing an accurate estimate of cross-border transactions and positions for the non-financial sector (particularly for households). This under-coverage is believed to be particularly relevant for assets held outside the euro area, including those held with foreign custodians. Most euro area countries use mirror data from: (i) the BIS locational banking statistics and the MFI balance sheet statistics from other euro area countries, to cover deposits and loans vis-à-vis non-resident banks; and (ii) so-called third-party holdings data collected for securities holdings statistics to improve estimates for securities when the foreign custodian is in the euro area. Those countries that do not use any source to enhance their estimates of household assets are continually encouraged to integrate mirror data (reported by other NCBs) available for their country and to incorporate this information into their national data where appropriate.

From March 2021 assets held by households and by non-profit institutions serving households (NPISHs) are separately reported for the b.o.p. and i.i.p., and this therefore ensure better assessment of the coverage. Ireland is the only country that does not report any portfolio holding by households and NPISHs, while Finland and the Netherlands do not cover securities held by households with custodians outside the country. Additionally, Germany is so far not collecting information on securities held (positions) in custody abroad by non-bank corporations. The assets held in euro area custodians are covered via the SHS data for third-party holdings since March 2020. The foreign assets of insurance corporations held abroad have been incorporated into the German i.i.p. statistics since December 2021.<sup>16</sup> Many countries also have difficulties in covering cross-border real estate holdings, in particular those owned by resident households. To complement the available information, the WG ES started to collect bilateral data in 2019 to be used as mirror data by compilers to cover resident holdings in other EU Member States. With regard to the figures currently reported, France does not include any estimate of stocks and transactions for household cross-border real estate assets<sup>17</sup>, while Malta has revised down to zero the figures previously reported.

Income attributable to investment fund shareholders may be estimated using information available in the Central Securities Data Base (CSDB) or other sources. Euro area holders seem to underestimate that income, in particular the holders of Irish and Luxembourgish investment funds. Owing to the residual approach used to calculate euro area investment income debits, this underestimation results in an overestimation of the euro area investment income of investment funds (IF) attributable to non-euro area shareholders (extra-euro area debits). Recurrent underestimation of the received income attributable to shareholders from euro area

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<sup>16</sup> This increase in assets coverage for the German i.i.p. statistics is not yet visible in the vintage assessed in the quality report.

<sup>17</sup> France cross-border real estate assets will be included in the data with the next benchmark revision.

investment funds is shown by Belgium, Cyprus, Germany, Croatia, Ireland, Lithuania, Latvia and Malta, and needs to be addressed rapidly.

## 2.4 Other methodological issues

Germany estimates accrued interest for debt securities under portfolio investment income on a security-by-security basis, but no equivalent entry is imputed for the underlying instrument in the financial account.

For the Netherlands, the intra/extra-euro area breakdown of the i.i.p. data was, in the past, not very plausible given that large other volume changes were usually recorded with opposite signs vis-à-vis intra/extra-euro area counterparts. More recently, new methods have been put in place to address the quality of preliminary quarterly figures due to the grossing-up methods used. Those methods have improved the geographical allocation and the stock/flow reconciliation. Further enhancements are foreseen with the benchmark revisions in June 2024.

Germany, in its compilation of external statistics, generally uses two distinct data sources for transactions and for positions respectively. This lack of integration of the sources may result in discrepancies that are reported under other changes in volume (KA), which are particularly sizeable for investment fund shares in portfolio investment liabilities.

In the case of Ireland, the monthly estimate for goods applying the community concept does not display the expected seasonal pattern and often shows negative values for exports and imports for periods from 2015 to 2017.

The quality of the monthly Irish and Dutch data has a negative impact on the general quality of the monthly euro area aggregates. They usually show either consistency problems with the reported quarterly data or an unreliable distribution of the quarterly transactions. Cyprus allocates quarterly financial transactions and related income to the last month of each quarter.

Croatia and Estonia<sup>18</sup> systematically report zero monthly transactions in assets issued by money market fund (MMF) shares in their first estimates (both vis-à-vis intra and extra-euro area counterparts).

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<sup>18</sup> In Estonia, by the end of 2023, investments into money market fund shares have been made only by households and non-financial corporations (covered by the quarterly reports of life-insurance companies and investment services of investment firms). Their monthly transactions are negligible, below EUR 0.1-0.2 million, per month. In portfolio investment, the units covered by the monthly report have not invested into money market fund shares.

### 3 Timeliness and punctuality

Article 3 of the ECB Guideline on external statistics establishes the requirements for the timeliness and punctuality of data transmission. Infringements of those requirements are recorded as non-compliance cases.<sup>19</sup>

For the data transmissions covered in this report (July 2021 to June 2023, for monthly and Q3 2021 to Q2 2023, for quarterly reference period), most of the countries made data available in accordance with the agreed timetable. Non-compliance cases owing to late transmissions (punctuality) of monthly b.o.p. data were recorded once each for Národná banka Slovenska, Hrvatska narodna banka and the Central Bank of Cyprus respectively. The Central Bank of Malta and De Nederlandsche Bank each failed to comply with the monthly reserve assets data transmission requirements on one occasion.

Data publication was not affected by the non-compliance cases and was carried out in line with the ECB's [Statistical calendars](#), published on the ECB's website.

The compliance infringements set out above were ad hoc cases and did not require follow-up measures.

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<sup>19</sup> Infringements in relation to b.o.p. and i.i.p. statistics and the international reserves template pursuant to the ECB Guideline on external statistics are also included in the annual compliance reports prepared by the ECB Internal Compliance Coordination Group and are submitted to the ECB Governing Council.

## 4 Data and metadata availability

### 4.1 Completeness

Completeness is assessed based on the mandatory series in accordance with the ECB guideline on external statistics in force in the period under analysis. For this quality dimension, tables are no longer included in the report, given that the appropriate indicator (average completeness ratio - ACR) would, in most of the cases, show completeness equal or close to 100%. The few cases of non-compliance with completeness reported below are in line with the information contained in the annual compliance reports prepared for the ECB Governing Council.

From March 2023 and referring to the data for Q2 2022, new mandatory series were requested in the ECB Guideline on external statistics for the production of b.o.p. and i.i.p. statistics relating to the cross-border transactions and positions of SPEs. It was also requested that preliminary back data from Q1 2020 onwards be provided by September 2023 at the latest.

Most countries adapted their transmissions to take into account the new requirements in a timely manner. The exceptions were the Nationale Bank van België/Banque Nationale de Belgique and the Deutsche Bundesbank, which failed to transmit the complete list of SPEs series for the first production round. The issue was resolved by the Bundesbank in the following quarter, while the complete dataset was received from the Nationale Bank van België/Banque Nationale de Belgique only in September 2023.

Under the ECB Guideline on external statistics, the data must “be accompanied by readily available information on single major events and on reasons for revisions, when the magnitude of the change to data caused by such single major events or revisions is significant [...]”. National compilers are therefore required to make regular and consistent use of the metadata template in all production cycles. Instances of information on single major events (above the threshold of €3 billion) not being reported (or being absent) despite being relevant for the euro area aggregate are also treated as non-compliance cases.

In general, for the review period, the metadata information exchanged with national compilers has been of sufficiently high quality to make it possible to produce the euro area aggregates and to explain major developments in those aggregates. Banque de France failed to comply with this requirement on one occasion.

The ECB welcomes further efforts to improve the accuracy and level of detail of the metadata transmitted to the ECB and also encourages euro area national compilers to exchange information with other euro area compilers under the existing arrangements, for instance in the context of the FDI Network and the Asymmetry Resolution Mechanism (ARM), to further improve the data quality of the b.o.p. and i.i.p. statistics.

## 4.2 Accessibility and clarity

*Accessibility* refers to the conditions under which users can obtain, use and interpret data, ultimately reflecting how straightforward it is to access the data and the extent to which confidentiality constraints hamper analytical work.

In line with the ECB legal framework on data confidentiality,<sup>20</sup> all national data must be transmitted with a flag indicating their respective levels of confidentiality. The ECB encourages national compilers to make as much data available as possible to final users (i.e. by marking observations as being “free for publication”) and to ensure that statistical confidentiality flags are used appropriately and not to mask data quality issues.

Table 2 below summarises the percentage of observations marked as “free for publication” by the individual country, in the publishable subsets, under the ECB Guideline on external statistics.<sup>21</sup> The percentages are calculated for the quarterly b.o.p. and i.i.p. data for the Q3 2021 to Q2 2023 reference period. Table A.1.1.1 in Annex 1 shows the same indicator for “all (mandatory<sup>22</sup>) items” transmitted pursuant to the ECB Guideline on external statistics.

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<sup>20</sup> [Council Regulation No 2533/98 concerning the collection of statistical information by the ECB](#) outlines the ESCB statistical confidentiality regime. In addition, the so-called ECB Confidentiality Guideline ([ECB/1998/NP28](#)) of 22 December 1998 sets out the common rules and minimum standards for protecting the confidentiality of statistical information collected by the ECB with the assistance of the national central banks.

<sup>21</sup> The publishable series included in Table 2 refers to Tables 2A and 4A of Annex II to the ECB Guideline on external statistics, as amended by Guideline ECB/2015/39. That Guideline recommends that all items contained in the publishable subset should be marked as “free for publication”. This provision applies to data as of the Q1 2014 reference period.

<sup>22</sup> According to the ECB Guideline on external statistics, valid prior to the Q4 2020 reference period.

**Table 2**

Average percentage of observations marked as “free for publication” per dataset

(Q3 2021 to Q2 2023)

Country	Quarterly b.o.p.	Quarterly i.i.p.
BE	100	100
DE	97	100
EE	100	100
IE	96	96
GR	100	100
ES	97	99
FR	100	100
HR	100	100
IT	100	100
CY	95	93
LV	100	100
LT	95	95
LU	98	93
MT	92	89
NL	100	100
AT	100	99
PT	99	100
SI	100	100
SK	100	100
FI	99	97

Source: ECB.

Note: The percentages are calculated based on the number of balance of payments (b.o.p.) and international investment position (i.i.p.) series published by the ECB on the cut-off date (subset of the publishable dataset), based on the number of observations that are flagged as free for publication (f), without considering the relative importance (magnitude) of the data.

Most euro area countries flag as “free for publication” more than 99% of the subset of the publishable dataset released by ECB to the general public. Belgium, Estonia, Greece, France, Croatia, Italy, Latvia, the Netherlands, Slovenia and Slovakia released 100% of this dataset. Only, Malta flags as “free for publication” less than 90% of the quarterly i.i.p. datasets released.

Full monthly b.o.p. datasets were flagged as “non-publishable” or “confidential” by Ireland, Cyprus, the Netherlands and Austria (generally on the basis of national dissemination policies) (see Table A.1.1.1 in Annex 1).

Concerning the full extent of quarterly data transmitted to the ECB (of which the publishable subset is only a small portion), Greece, Italy, the Netherlands, Slovenia and Slovakia released significantly more quarterly b.o.p and i.i.p. data to the public compared with that observed in the Quality Report 2021, reaching 100% of these datasets, alongside Belgium and Croatia. Additionally, notable improvements in public availability were made by Malta. Thirteen euro area countries made more than 90% of the required quarterly b.o.p. data available to final users, and fourteen euro area countries did the same for the quarterly i.i.p. data (see Table A.1.1.1 in Annex 1).

*Clarity* refers to the “information environment” of the data, i.e. whether the data are accompanied by relevant and pertinent metadata, illustrations (such as charts), information on their quality, potential limitations as to their use and background information (sources and methods).

The ECB publishes the b.o.p. (monthly and quarterly) and i.i.p. (quarterly, including the data for revaluations and other changes in volume) statistics for the euro area as a single economic area. Twelve monthly press releases and four quarterly statistical releases outlining the latest data and relevant economic developments are published through wire services and on the [ECB's website](#). Furthermore, dissemination dates for all these press releases are announced at the beginning of each calendar year in the ECB's [Statistical calendars](#).

The concepts and definitions used in the euro area b.o.p. and i.i.p. statistics are in line with international statistical standards. The [B.o.p. and i.i.p. e-book](#) is aimed at providing users with an overview of the main features of the b.o.p. and i.i.p. methodological framework and of the data sources and compilation methods used by the ECB (for the euro area) and by each of the EU 27.

The data can be accessed through the [ECB Data Portal](#), the [Main items of the euro area balance of payments](#) interactive statistical report or through the data visualisation [Dashboard](#). Furthermore, the ECB has a [Statistical Information Request](#) facility to help external users of statistics to access and analyse the data.

Table A.1.1.2 in Annex 1 presents a summary of national practices for data and metadata accessibility. Similarly to the ECB, all euro area countries provide technical facilities for downloading data in different formats (in Excel tables, CSV files, PDF documents or through interactive statistical databases). Furthermore, the majority of the euro area countries have statistical and/or economic bulletins providing a visual representation of the data in the form of charts, graphs and/or tables. Most euro area countries publish regular press release updates on their websites on a monthly and/or quarterly basis. Last but not least, all countries provide extensive information about their institutional environment and statistical processes in the B.o.p. and i.i.p. e-book, as well as on their national websites.

## 5 Accuracy and reliability (including stability)

This section reviews the stability of the data in terms of revisions to the “first assessment” or “first vintage”. In general, revisions are necessary to improve the accuracy of the data, given that first assessments may be based on incomplete, late or erroneous responses by reporting agents. However, major recurrent (biased) revisions may indicate low quality of data sources and/or methods that need to be addressed. Conversely, minimal or no revisions does not necessarily mean that the first assessment was of a high quality; it may simply indicate a national preference for not revising the data.

In the report, different indicators are applied depending on the features of the time series in question. Two basic types of indicators are used:<sup>23</sup>

- **Directional stability/reliability indicators** measure how frequently first assessments are revised in the same direction (the upward revisions ratio and the directional reliability indicator).<sup>24</sup>
- **Relative size indicators** measure the difference between the first and last estimate. The difference can be measured (i) in relation to the underlying series when strictly positive (the symmetric mean absolute percentage error - SMAPE), or (ii) in relation to a reference series such as GDP or the underlying outstanding amounts for b.o.p. financial transactions (the mean absolute comparative error - MACE). In the case of non-strictly positive (net/balance) time series, revisions cannot be properly related to the series value itself because the observations may have different signs and, more importantly, the value of the series may be close to zero. The indicator used for net/balance series is therefore the net relative revisions (NRR). The NRR indicator measures the absolute revisions in relation to the average underlying gross flows for current account items and the average positions of assets and liabilities for financial account transactions and positions. Owing to the different denominators employed, the SMAPE, MACE and NRR indicators are not directly comparable.

When assessing accuracy and reliability, the indicators included in this report use a window of three years (Q2 2020 to Q1 2023 for quarterly data and April 2020 to March 2023 for monthly data). In this report, no indicators are reported for the euro area aggregate (for the quarterly and monthly series), given that the first vintage was not available for the euro area-20 composition (i.e. including Croatia) for the entire time window. The counterpart area is always the rest of the world (RoW).

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<sup>23</sup> The indicators are explained in more detail in Annex A.2.2.

<sup>24</sup> In this report, directional stability/reliability indicators are only used to complement the analysis based on the relative size indicators.



In general, the revisions recorded in the Q2 2020 to Q1 2023 reference period were not fundamentally different from those recorded in the equivalent period analysed in the Quality Report 2021. They were mostly needed to incorporate newly available information, but also reflected a number of methodological improvements. For instance, some of the revisions submitted by Cyprus are linked to improvements in certain data sources for FDI estimation. Malta's new administrative data sources impacted the direct investment and portfolio investments positions, and the Netherlands improved estimation of the reinvested earnings recorded under direct investment income. Germany revised the stock series for portfolio investments liabilities in order to value the debt securities at market value. In addition, revisions in Croatian data were mainly due to the work for joining the euro area.

While increasing the accuracy, these revisions have not fundamentally altered the analytical interpretation of the first assessments.

## 5.1 Current account

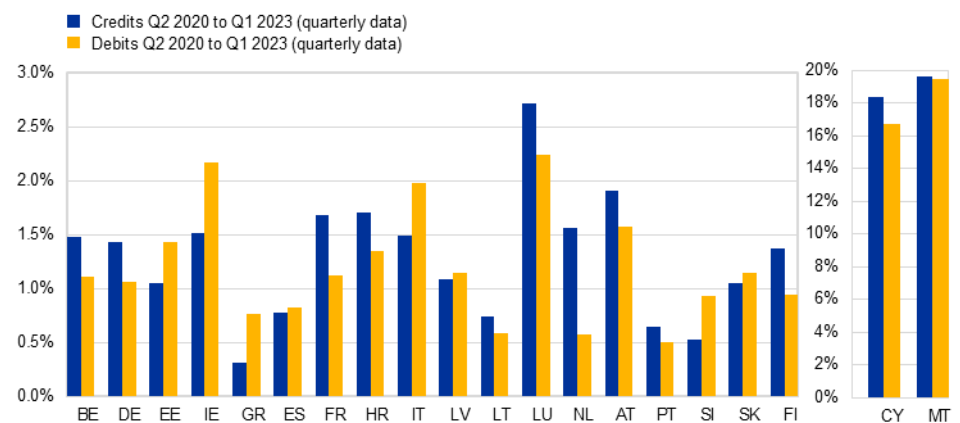
Malta, Cyprus and, to a lesser extent, Luxembourg have the highest revisions among euro area countries for current account credits and debits (see Chart 1). Both Malta and Cyprus generally revised their quarterly current account figures upwards, with directional reliability indicators below the target (mostly driven by revisions to primary income). Luxembourg's quarterly revisions are also mostly revised upwards (with the exception of goods) and are driven by goods and services on the credit side, and services and secondary income on the debit side.

As in previous reports, in terms of current account sub-items, and in particular for monthly data, most countries displayed higher revisions for primary income.

**Chart 1**

### Revisions to current account credits and debits

(symmetric mean absolute percentage error – SMAPE)



Source: ECB.

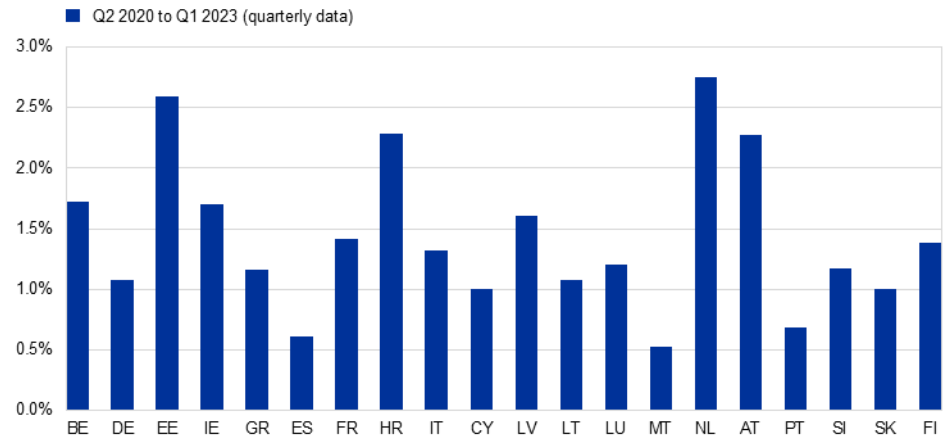
Note: The national concept is used for the Goods series.

For the current account balance, the most sizeable revisions were recorded by the Netherlands, Estonia, Croatia and Austria (see Chart 2 below).

## Chart 2

### Revisions to the current account balance

(net relative revisions – NRR)



Source: ECB.

Note: The national concept is used or the Goods series.

Detailed information is available in Tables A.1.2.1 to A.1.2.13 in Annex 1 and Annex 2.

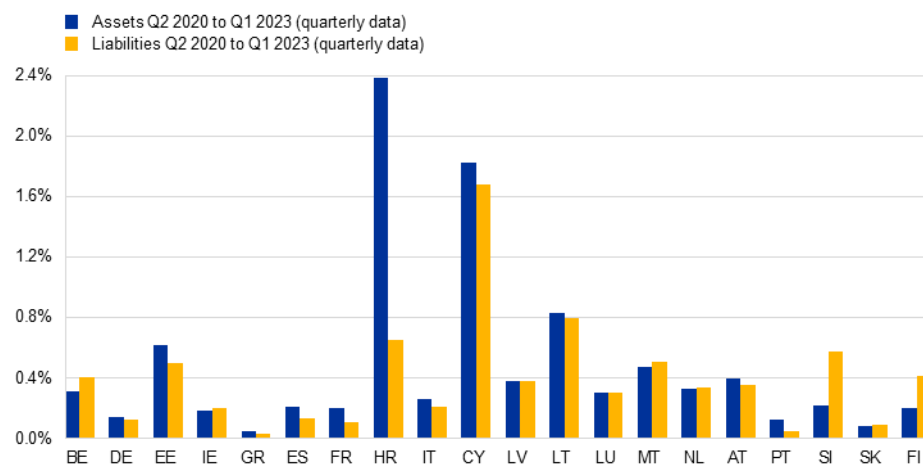
## 5.2 Financial account transactions

Most euro area countries recorded revisions for quarterly financial account transactions of less than 1% of the underlying positions (see Chart 3), the exceptions being Croatia (on the assets side, mostly driven by revisions to other investments) and Cyprus (assets and liabilities, mostly driven by revisions to direct investments).

In terms of financial account transaction sub-items, in particular for monthly data, most countries displayed equally highest revisions to both direct and other investments.

**Chart 3****Revisions to the financial account transactions**

(mean absolute comparative error – MACE)

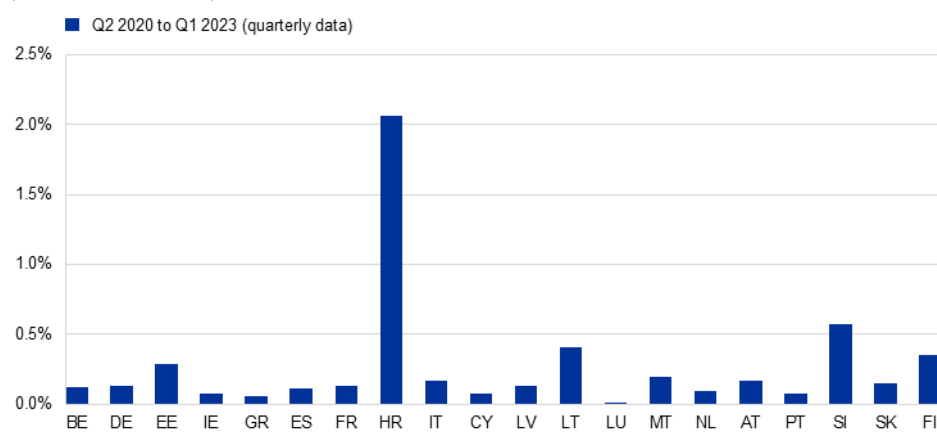


Source: ECB.

In terms of net financial account transactions, Croatia recorded the highest level of revisions among euro area countries, followed, to a lesser extent, by Slovenia and Lithuania (see Chart 4).

**Chart 4****Revisions to net financial account transactions**

(net relative revisions - NRR)



Source: ECB.

Detailed information is available in Tables A.1.2.1 to A.1.2.13 in Annex 1 and Annex 2.

## 5.3 International investment position

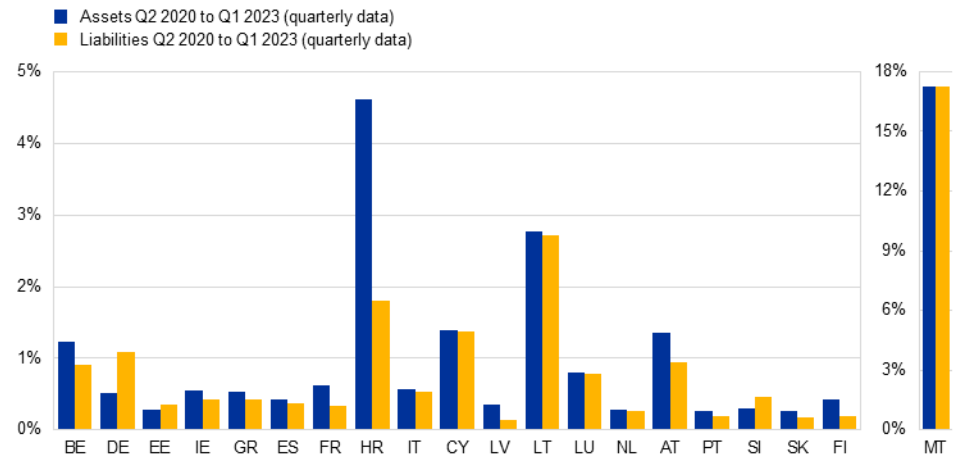
At the country level, revisions for assets and liabilities were generally comparable, except for those for Croatia. Malta recorded the highest revisions in the euro area countries, followed, to a lesser extent, by Croatia and Lithuania (see Chart 5). In

most cases, those countries revised upwards their first assessments of the total i.i.p. datasets (for both assets and liabilities). In those countries, the directional reliability indicator, for both assets and liabilities, was above the 80% (the target value).

### Chart 5

#### Revisions to the international investment position

(symmetric mean absolute percentage error -SMAPE)



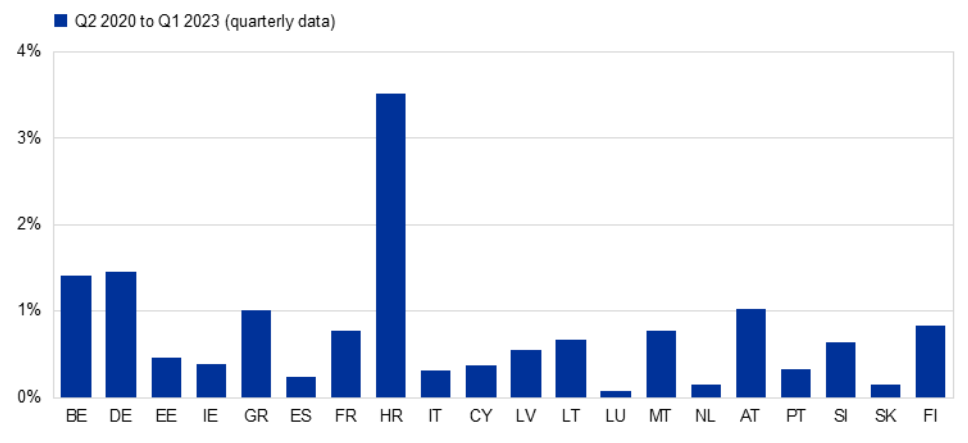
Source: ECB.

Among euro area countries, Croatia stood out in terms of revisions to net international investment positions, having the highest NRR indicator (see Chart 6). It was followed, at a distance, by Germany and Belgium. Malta and Cyprus recorded the highest NRR for net international investment position sub-items, with relevant revisions to net portfolio investment.

### Chart 6

#### Revisions to the net international investment position

(net relative revisions - NRR)



Source: ECB.

Detailed information is available in Tables A.1.2.1 to A.1.2.13 in Annex 1 and Annex 2.

## 6 Internal consistency

This section is assessing the reported national b.o.p. and i.i.p. data for internal coherence and consistency. This comprises consistency over time (i.e. potential breaks in series), consistency across different frequencies (monthly and quarterly data) and an assessment of the arithmetic and accounting identities (including *net errors and omissions*).

### 6.1 Validation/integrity rules

This section reviews the extent to which the national datasets transmitted were complete and met all the basic accounting validation rules<sup>25</sup>. These include the linear constraints that apply to the b.o.p., i.i.p. and international reserves template statements, namely whether credits/assets minus debits/liabilities match the respective net flows/positions for each item and whether the sub-items add up to the respective items/totals, etc. Furthermore, countries must ensure that datasets for different frequencies (i.e. monthly and quarterly) or data recorded in different datasets (e.g. reserve assets transmitted in the i.i.p. statement and in the reserve assets template) are always kept consistent.

Compliance with the validation rules is assessed based on the “average share of satisfied validations” indicator (see Annex 2 “Methodological documentation for quality indicators” for more details).

Over the period analysed (July 2021 to June 2023, for monthly data, and Q3 2021 to Q2 2023, for quarterly data), the quarterly data had more validation issues than monthly data; in both cases, however, the failed validations were adjusted by the ECB and therefore did not impair the overall quality of the euro area aggregates.

The integrity results are fundamentally in line with the Quality Report 2021 assessment, with a few countries having resolved some of the outstanding issues.

Among the countries with main persistent validation issues, there are:

- Germany, with validation issues in the geographical breakdowns (Geo2 and Geo3) both for monthly and quarterly b.o.p. data and arising from the presence of geographically unallocated amounts. For the time being, there is no plan to allocate those amounts.
- Malta, with several validation issues in the currency, maturity and instrument breakdowns for both the quarterly b.o.p. data and the i.i.p. datasets. The errors are partially explained by the inclusion of new data sources and should be fully resolved by the June 2024 production round. These errors affected the euro

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<sup>25</sup> Detailed information on the validation rules assessed by ECB is included in the publication “The exchange of balance of payments and international investment position statistics – BPM6 (i.e. the [Booklet](#))”.

area compilation and required intervention by the ECB with respect to the Maltese data (this being reported once as a non-compliance case).

Finally, a few countries (Malta, France, Ireland and Cyprus) display a number of accounting validation errors owing to zero or incorrect reporting for the direct investment extended directional principle breakdown.

Values for the validation indicators are available in Tables A.1.3.1 to A.1.3.3 in Annex 1. The calculations are based exclusively on the new requirements introduced in March 2021 by the amended ECB Guideline on external statistics.

Consistency between datasets is very important to ensure the overall quality of b.o.p. data. Average time consistency (ATC) and average relative explained changes (AREC) are therefore used as indicators to measure consistency problems between frequencies and between positions and flows respectively.

In terms of time consistency, most countries exhibit full consistency between monthly and quarterly data, with only a few exceptions. The largest discrepancies are observed for the Malta financial account under portfolio investment assets, *vis-à-vis* both the extra-euro area and the RoW. Croatia displays some deviations in both the current and financial accounts data, but the indicator values are close to the euro area median. Finally, Ireland has considerably improved the time consistency for both the current and financial accounts, with some minor discrepancies still visible under primary income and for other investment (see Tables A.1.3.4 and A.1.3.5 in Annex 1 for more details).

In terms of average reconciled amounts for the main items, all countries achieved full reconciliation between positions and flows, with the exception of Malta, which displays some discrepancies in all functional categories (see Table A.1.3.6 in Annex 1 for more details).

## 6.2 Net errors and omissions (n.e.o)

Net errors and omissions (the difference between net lending/borrowing as compiled from the current account plus the capital account and the financial account) provide an indication of the internal consistency of the b.o.p. data. In fact, the principle of double-entry bookkeeping means that the sum of all credit and debit transactions should be equal to zero in the b.o.p. statement (i.e. that net errors and omissions are zero). Normal random imbalances commonly result from imperfections in source data and in compilation practices. However, if these imbalances are large and/or persistent, they indicate problems in sources and/or methods.

With regard to b.o.p. compilation practices, it is not uncommon for statistical modelling and/or expert judgements to be applied with the intention of imposing certain properties on net errors and omissions. This means that statistical techniques are used to address a lack of source data coverage or uncertainty about certain pre-identified items. Such mechanisms are typically incorporated into the compilation system and are applicable during each data production round. At the [euro area level](#),

a correction mechanism that minimises net errors and omissions is also in place as part of the process for ensuring the consistency of euro area b.o.p. data and euro area accounts (EAA) statistics. Adjustments made are aimed at keeping absolute net errors and omissions below a threshold broadly corresponding to 1% of euro area quarterly GDP.

The average relative error for the current account provides a measure of the magnitude of net errors and omissions for average gross current account flows. Chart 7 below provides a graphical representation of the situation in euro area countries and shows the euro area aggregate (Chart A.1.3.1 in Annex 1 shows the average absolute net errors and omissions for the i.i.p. data).

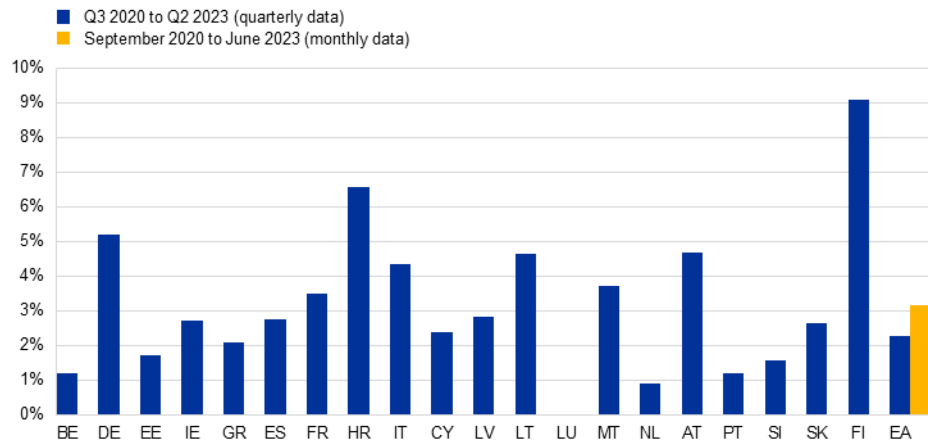
Overall, the current results are in line with those presented in the Quality Report 2021.

Owing to the correction mechanism in place, the euro area aggregate did not exhibit high net errors and omissions compared those of the individual euro area countries. The average absolute net errors and omissions relative to average gross current account flows for the euro area aggregate was around 3% for monthly data and slightly above 2% for quarterly data.

Quarterly net errors and omissions for euro area countries generally exceeded 2% of the average current account gross flows. Over the period under review (Q3 2020 to Q2 2023), Finland displayed the highest average net errors and omissions as a percentage of average current account gross flows, at around 9%. Croatia had the second highest value among euro area countries, standing at approximately 6.5%, followed by Germany, with just above 5%. Countries are encouraged to continuously monitor the size of their net errors and omissions and the underlying causes, and to address structural problems as soon as possible.

**Chart 7**  
Relative net errors and omissions<sup>26</sup>

(average absolute net errors and omissions relative to average gross current account flows; percentages)

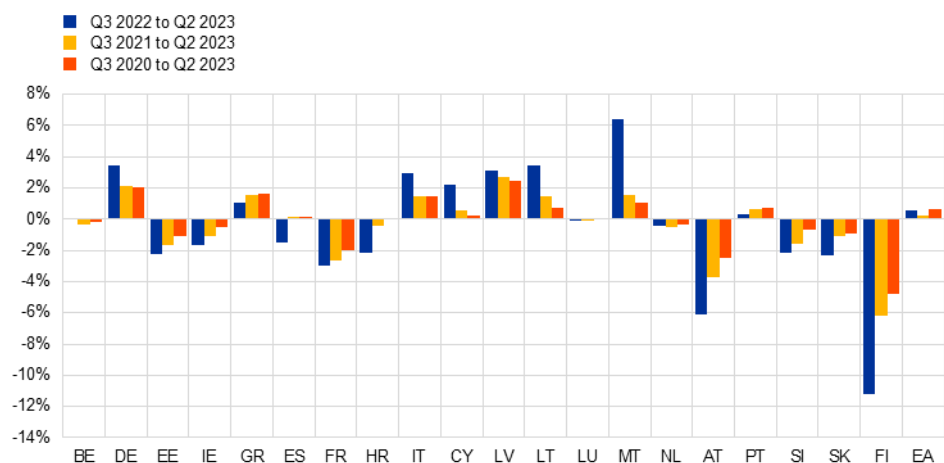


Source: ECB.

The persistence of the sign of net errors and omissions is also relevant as a quality measure, given that it helps to identify biases in the accounts. Chart 8 below shows the cumulative net errors and omissions in relation to current account gross flows.

**Chart 8**  
Bias in net errors and omissions

(cumulative net errors and omissions relative to average gross current account flows; percentages)



Source: ECB.

Neither the euro area aggregate nor the vast majority of euro area countries display a clear statistical bias in their net errors and omissions. However, the bias observed in the net errors and omissions for Finland, Malta and Austria needs to be carefully monitored.

<sup>26</sup> Ideally, the average absolute net errors and omissions relative to current account gross flows should be computed using the first assessment (the first-time data are transmitted to the ECB). However, an insufficient number of first assessments for net errors and omissions means that proper calculation of this indicator is not possible for the time being. Future quality reports may address this issue.



## 7 External consistency/coherence

External consistency is defined as the coherence of b.o.p. and i.i.p. data with other related statistical domains. In this report, the external consistency/coherence of the b.o.p. and i.i.p. data is assessed against foreign trade statistics, euro area (sector) accounts, MFI balance sheet statistics (including money market funds - MMF), investment fund (IF) statistics, securities holdings statistics (SHS), and insurance corporations and pension funds (ICPF) statistics.

### 7.1 Coherence with foreign trade statistics

International trade in goods statistics (ITGS) are typically the main data source used to compile the b.o.p. goods account in all euro area countries. However, when comparing the two datasets, important conceptual differences should be taken into account. Differences in concepts and definitions are linked primarily to the fact that the b.o.p. data follows the so-called change-of-economic-ownership principle, whereas the ITGS record physical cross-border movements of goods.<sup>27</sup>

Given the methodological differences between the two datasets, a direct comparison would not convey an accurate picture. Instead, a directional reliability indicator is used to assess whether the b.o.p. and ITGS data exhibit consistent developments and hence can be used as complementary analytical data sources. Furthermore, a few countries publish reconciliation tables between the two datasets, which are available on the websites of their respective NCBs or national statistical institutes (NSIs).

Table A.1.4.1 in Annex 1 shows the individual national directional reliability indicators for the Q3 2020 to Q2 2023 period for the total RoW and extra-euro area counterpart areas. The results are comparable with those presented in the Quality Report 2021.

For the euro area aggregate, there was full directional reliability for both imports and exports. Four euro area countries displayed full directional reliability for both exports and imports for the two counterpart areas analysed. A limited number of countries showed a lower degree of directional reliability.<sup>28</sup> Compared with the Quality Report 2021, Malta has significantly improved its reliability measures for imports and exports against the RoW.<sup>29</sup> On average, data for exports and credits were as directionally reliable as data for imports and debits.

<sup>27</sup> A complete list of the conceptual differences between BPM6 and international merchandise trade statistics (IMTS) is provided in Annex F to “[International Merchandise Trade Statistics: Concepts and Definitions 2010](#)”.

<sup>28</sup> The b.o.p. goods sub-item general merchandise (G1), national concept, was used to calculate the directional reliability indicator.

<sup>29</sup> In the case of Malta, yachts and aircraft are only deemed to be operationally leased and are therefore removed from goods for b.o.p. purposes.

It should be noted that full directional reliability is not necessarily a sign of quality and that inconsistencies in the developments of the two datasets may be explained by the economic structure of the external trade in goods account of the specific country, in particular owing to globalisation-related cross-border production arrangements and merchanting activities linked to large multinational enterprises.

## 7.2 Consistency with euro area sector accounts

Euro area b.o.p. and i.i.p. data constitute one of the so-called building blocks of the euro area accounts (EAA) and are widely used at the national level for the compilation of the RoW financial and non-financial accounts as part of the SNA.

The methodological differences between the b.o.p. and i.i.p. data and RoW accounts (national accounts) were removed with the introduction of the BPM6 and the European System of Accounts (ESA) 2010, albeit some challenges still remain when it comes to interpretation.<sup>30</sup> Regular monitoring of differences between the two statistical domains reveals that some discrepancies still persist in many countries, negatively affecting the combined use of the two datasets and their reliability.<sup>31</sup> In this regard, the ESCB has worked on removing inconsistencies between the two statistical domains over the last few years, and most countries already compile the two sets of statistics in a consistent manner. However, for a few countries large discrepancies are still observed, with a substantial impact on euro area and EU aggregates. Such issues are being tackled within the MIP quality assurance framework.<sup>32</sup>

### 7.2.1 Current account

Chart 9<sup>33</sup> shows the differences between the b.o.p. and RoW current accounts<sup>34</sup>. As an indicative benchmark, relative differences should ideally be no higher than 0.5% of the underlying average b.o.p. and RoW values, as agreed by the STC.<sup>35</sup>

For the euro area aggregate, the differences observed show a modest increase relative to the Quality Report 2021 but still point to a high level of consistency between the two datasets. At the country level, a general deterioration was observed

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<sup>30</sup> The [harmonised EU revisions policy](#) also supports consistency between the two statistical domains. In addition, the ECB and Eurostat have jointly provided methodological advice to national compilers on selected topics.

<sup>31</sup> Besides the non-identical interpretations given in the two manuals, the use of different data sources or different compilation methods also contributes to the outstanding differences.

<sup>32</sup> For this purpose, all MIP visits include specific action points aimed at addressing the differences between both domains.

<sup>33</sup> Some national contributions to RoW data were not shared with the ECB owing to data validation issues. This affected the comparability of detailed current account data for Bulgaria, the Czech Republic and Romania.

<sup>34</sup> In Austria, the current account and the RoW are reconciled in the September production, but not in the other quarterly productions. Minor differences result from the calculation of travel and reinsurance.

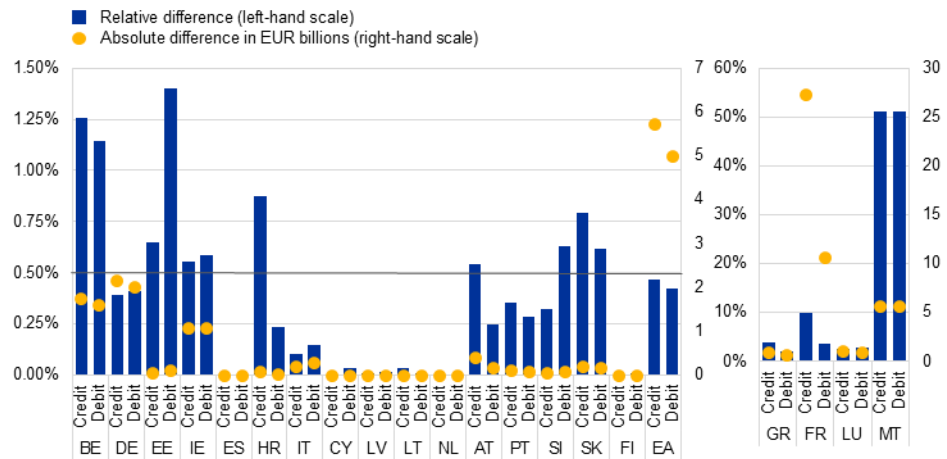
<sup>35</sup> Some countries have achieved the aforementioned consistency between the two statistical domains but still record differences between the b.o.p./i.i.p. and RoW data that are slightly above the thresholds agreed with the STC.

as compared with the previous report, and notable differences (above 2% for both credits and debits) were observed for Greece, France, Luxembourg and especially Malta (exceeding 50% for both credits and debits). These differences were triggered mostly by sizeable discrepancies for goods (Luxembourg), services (France and Malta), primary income (France and Malta) and secondary income (Greece and Malta).

### Chart 9

#### Current account discrepancies between the b.o.p. and RoW accounts

(average absolute and relative difference (as a percentage of the respective quarterly b.o.p. and RoW items) for the Q3 2020 to Q2 2023 period – b.o.p. accounts vs EAA)



Source: ECB.

Further details are available in Charts A.1.4.1 to A.1.4.4 in Annex 1.

## 7.2.2 Financial transactions

Chart 10 shows the differences between the b.o.p. and RoW accounts for financial transactions. In this case, the discrepancies may be accounted for by time of recording differences, as well as by the reconciliation of national sectoral accounts. Both “vertical” reconciliation (a correction for net errors and omissions) and “horizontal” reconciliation (asset/liability equality across sectors) may entail larger adjustments to the financial transactions in the RoW account. Nonetheless, as an indicative benchmark, the relative differences should ideally not exceed 0.3% of the average value of the underlying positions.

As already mentioned, consistency between the two datasets for financial transactions at the euro area level has been achieved thanks to the alignment of data sources and the introduction of a common balancing mechanism<sup>36</sup> for the periods from Q1 2013 onwards. Work on achieving the alignment of positions as well

<sup>36</sup> For more details, see “Euro area balance of payments and international investment position compilation - Balancing mechanisms”, External Statistics and Sector Accounts Division, ECB, 29 October 2020.

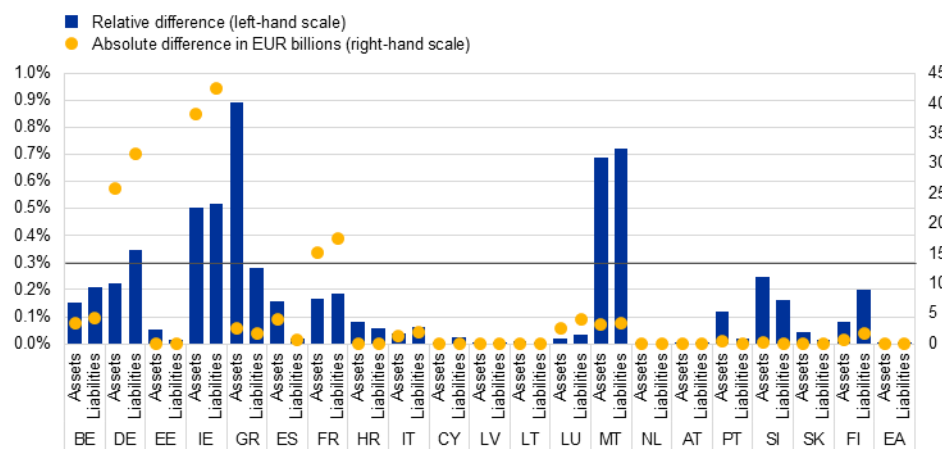
as other changes is expected to resume in autumn 2024, leveraging on revised national data following the benchmark revisions.

At the country level, the overall picture remained broadly unchanged, but differences above 0.3% were still recorded for Germany (liabilities), Ireland and Greece (assets) and Malta. Greece recorded the highest relative discrepancies (assets), while the largest absolute differences were observed in Ireland (liabilities).

**Chart 10**

**Financial account transaction discrepancies between the b.o.p. and RoW accounts**

(average absolute and relative difference (as a percentage of the respective quarterly b.o.p. and RoW stocks of financial assets/liabilities) for the Q3 2020 to Q2 2023 period – b.o.p. accounts vs EAA)



Source: ECB.

### 7.2.3 Financial positions

Chart 11 below presents the differences between the i.i.p. and RoW accounts for financial assets and liabilities (balance sheets/positions). As expected, the differences between the two datasets are larger for positions than they are for transactions. Relative differences should, as an indicative benchmark, be less than 0.5% of the average totals for financial assets and liabilities in the i.i.p. and sectoral accounts.

The euro area recorded discrepancies of 5% for both assets and liabilities, a modest increase as compared with the Quality Report 2021. These discrepancies arose mostly from differences between the compilation and reconciliation processes for the euro area i.i.p. and RoW. At the country level, the differences worsened on both the assets and liabilities sides. The highest discrepancies were recorded for Malta, with values exceeding 19%. In addition, differences above the threshold were observed for Belgium (liabilities), Germany, Ireland (liabilities), Greece, France, Italy<sup>37</sup> (assets), Portugal (assets), Slovenia and Finland.

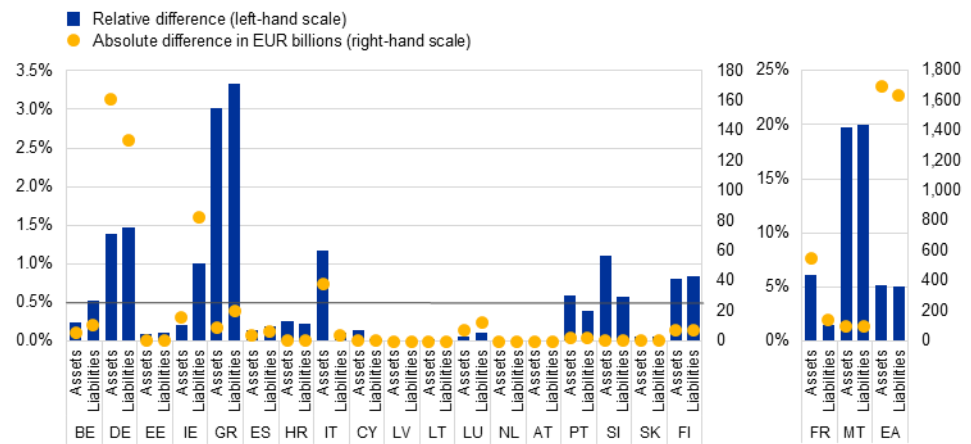
<sup>37</sup> In Italy, part of the discrepancies in positions assets are related to the stock of government derivatives that in RoW accounts are conventionally recorded on a net basis while in IIP are recorded on a gross basis.

A detailed analysis at the instrument level reveals sizeable differences for equity instruments that are triggered mostly by different valuation practices (e.g. in the case of France, for unlisted equity).<sup>38</sup> Other reasons behind the significant differences also affecting the remaining instrument types include discrepancies in vintages and in the length of back data revisions, as is the case for those observed for Malta (especially for the data prior to Q4 2021), data sources and estimation methods.

**Chart 11**

**Financial account position discrepancies between the i.i.p. and RoW accounts**

(average absolute and relative difference (as a percentage of the respective quarterly i.i.p. and RoW stocks of financial assets/liabilities) for the Q3 2020 to Q2 2023 period – i.i.p. accounts vs EAA)



Source: ECB.

### 7.3 Coherence with MFI balance sheet data

Data on cross-border transactions and positions of the euro area MFI sector (deposit-taking corporations and MMFs) are collected and recorded in the b.o.p. and i.i.p. datasets and under the MFI balance sheet statistics (BSI).

Consistency between b.o.p. data for the MFI sector and transactions in external assets and liabilities derived from the BSI statistics for euro area MFIs is essential for the construction of the “monetary presentation of the balance of payments<sup>39</sup>” and its use for monetary policy purposes. Furthermore, this consistency is also paramount for the compilers of EAA, who use both datasets as “building blocks”. On these grounds, the ECB assesses the consistency between the two datasets in every regular production cycle, taking into account details by geography and instrument. Persistent discrepancies between the two datasets are generally explained by compilation and methodological differences (see below).

<sup>38</sup> In the RoW dataset, an elaborate method is used to estimate market prices for unlisted shares, while in i.i.p. statistics the own-funds-at-book-value methodology is consistently applied to both unlisted shares and other equity.

<sup>39</sup> For more information see “[Monetary Presentation of the Euro Area Balance of Payments](#)”, *Occasional Paper Series*, No. 96, ECB, September 2008.

The average monthly differences between the two datasets for the euro area aggregate transactions (between July 2020 and June 2023) for other investment instruments (mostly loans and deposits) are similar in relative and in absolute terms to those observed in the Quality Report 2021. In absolute terms, the differences were around €11 billion for assets and €13 billion for liabilities. For security assets, the average monthly discrepancies between the two datasets were also at similar levels, being the average discrepancy in absolute terms around €4 billion for equity and €8 billion for debt securities. For quarterly transactions, the consistency for loans and deposits has been assured by the ECB since Q1 2013, given that the data are adjusted to be fully consistent with BSI transactions, as part of the process for improving the consistency with the EAA statistics.

For the euro area countries, monthly transactions were generally consistent across datasets, with a few exceptions in loans and deposits liabilities for Slovakia (5%), Lithuania (4%) and Ireland (4%). Comparability issues in absolute terms were observed for France and Ireland, with discrepancies exceeding, on average, €12 billion and €7 billion respectively for loans and deposits under both assets and liabilities. The differences in equity assets were relevant for Ireland (5%), and, in absolute terms, were observed for France, with discrepancies exceeding €10 billion for debt securities assets.

For positions, differences of around €100 billion, i.e. approximately 25% of the average i.i.p. were recorded for euro area equity assets and are explained mostly by the French<sup>40</sup> discrepancy of over €95 billion. In addition, Germany, Ireland, France, Croatia, Luxembourg, Malta, Austria, and Finland<sup>41</sup> also recorded discrepancies exceeding 25% of average positions for equity securities. However, consistency in euro area loans and deposits is almost constant, remaining at the level seen for Q1 2013, owing to the adjustments mentioned above. Changes in the level of consistency are attributable solely to the other flows. However, at the euro area countries level, the largest relative discrepancies were found for Lithuania (15% and 18% on the assets and liabilities sides respectively), Croatia (12% on the assets side) and France (6% on the liabilities side). However, the French discrepancy of over €125 billion was the largest discrepancy in absolute terms.

The main reasons for these inconsistencies include: (i) differences in the classification of instruments (e.g. an instrument may be classified as a deposit for b.o.p. and i.i.p. purposes, but as remaining assets and liabilities, without the counterpart geographical breakdown, in BSI statistics); (ii) differences in the treatment of short selling of securities in certain countries (off-balance sheet treatment instead of a reduction in assets); (iii) reliance on distinct data collection systems, namely security-by-security for the b.o.p. data and monthly aggregated sources for BSI statistics, which leads, in particular, to differences in valuation criteria (i.e. the b.o.p. and i.i.p. data are calculated at transaction/market prices, while

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<sup>40</sup> According to France, differences are probably due to valuation effects.

<sup>41</sup> Finland has investigated the differences and concluded that they are due to notable differences between the two statistics. The statistics measure different variables from a different sample of entities.

BSI transactions are derived from positions reported at fair, cost or nominal value, depending on the accounting practices used).

Regarding shares issued by euro area MMFs, at the euro area level, the i.i.p. data frequently exceeded the BSI statistics for outstanding amounts of MMF shares issued by euro area residents and held by non-euro area residents. The average absolute discrepancy reached almost €100 billion for positions and €12 billion for transactions throughout the period under analysis (i.e. Q3 2018 to Q2 2021). At the country level, small discrepancies were recorded in the period under review for France, Luxembourg, Ireland and the Netherlands for transactions with non-residents (mostly those countries with relevant MMF activity).

For this particular instrument, the discrepancies between the two sets of statistics are related to the use of different compilation methods in the b.o.p. and i.i.p. datasets and the BSI statistics. While the “residual approach” is used to calculate the b.o.p. and i.i.p. portfolio investment liabilities, MMF liabilities are allocated geographically by respondents in BSI statistics. Although there is, in principle, no significant trading of MMF shares in secondary markets, the intervention of intermediaries buying, holding and selling shares on behalf of their clients can make it difficult to identify the place of residence of the actual holders. In such cases, the first counterpart – the custodian or other intermediary – may be known, but the final investor often is not. Identifying the place of residence becomes increasingly complicated as the length of the chain of intermediaries increases; consequently, the residual approach of the b.o.p. and i.i.p. data may be more accurate.

## Eurosystem

Most of the discrepancies in the data for the Eurosystem aggregate are related to the inclusion in the b.o.p. data of estimates for holdings of euro banknotes outside the euro area,<sup>42</sup> while in BSI statistics all holdings of euro banknotes are deemed to be in circulation in the euro area. For the rest, the consistency between the b.o.p./i.i.p. and BSI statistics is generally good.

At the country level, the treatment of intra-Eurosystem technical claims is also a source of discrepancies, given that these claims are included in the BSI statistics under remaining assets and liabilities, without geographical breakdown, and in the b.o.p./i.i.p. data under currency and deposits. Additionally, b.o.p. estimates for holdings of euro banknotes outside of the euro area are not included in the BSI statistics.

## 7.4 Coherence with investment fund statistics

Details of cross-border investments in non-MMF investment fund (IF) shares are recorded in the b.o.p. and i.i.p. statistics under portfolio investment. Data on IF

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<sup>42</sup> See [Estimation of euro area currency in circulation outside the euro area](#), ECB, April 2017.



assets and liabilities are collected pursuant to the [Regulation on Investment Funds](#) (IF dataset).

At the euro area level, the i.i.p. data consistently exceed the IF dataset in terms of euro area investment funds shares liabilities. The average absolute discrepancy reached almost €250 billion for positions and €25 billion for transactions throughout the period under analysis (i.e. Q3 2020 to Q2 2023). The discrepancies at the euro area level are explained partly by the use of the residual approach to calculate portfolio investment liabilities (see the explanation above for MMF shares).

For positions, at the country level, Greece (91%) has the highest relative inconsistencies for IF shares held by non-residents, although the absolute difference is a value close to €2 billion. In addition, while the Netherlands displays a relatively discrepancy of 38%, the average absolute discrepancy stands at €28 billion. The two datasets are fairly consistent as regards transactions, with the largest average discrepancies affecting Luxembourg data (€7 billion).

Further details are available in Charts A.1.4.13 to A.1.4.14 in Annex 1.

## 7.5 Coherence with securities holdings statistics

The ECB Guideline on external statistics specifies that the portfolio investment collection systems of euro area countries must, insofar as possible, rely on security-by-security information (see Annex VI). In particular, it states that “the target coverage is defined as follows: stocks of securities reported to the national compiler on an aggregate basis, i.e. not using standard (international securities identification number (ISIN) or similar) codes, should not exceed 15% of the total portfolio investment stocks of assets or liabilities”. The b.o.p. and i.i.p. statistics and SHSS<sup>43</sup> are therefore expected to provide consistent results, mainly because national portfolio investment assets and SHSS should derive from the same security-by-security sources of information.<sup>44</sup>

This section compares the positions at market value of (i) debt securities, and (ii) listed shares and investment fund shares/units, as available in the SHSS dataset.<sup>45</sup> This analysis considers, on the SHSS side, cross-border holdings by residents of each euro area country as collected by the respective country, as well as holdings by non-financial investors of each euro area country that are held in custody in other euro area countries (i.e. so-called third-party holdings).

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<sup>43</sup> Securities holdings statistics (SHS) data are collected by the Eurosystem in accordance with [Regulation ECB/2012/24](#) (as amended).

<sup>44</sup> SHSS figures can be reported as portfolio investment, direct investment and not specified. When compared with i.i.p. data both comprise portfolio investment holdings of debt securities and equity. On the SHSS side, securities with the functional category “not specified” are also included, given that they represent around 20% of total euro area debt securities and equity positions, and are mainly attributable to Ireland and, to lesser, extent to Italy.

<sup>45</sup> Both unlisted shares and other equity fall outside the scope of SHS statistics.



### 7.5.1 Debt securities

Given the scope of compilation of portfolio investment on a security-by-security basis as indicated above, the focus should be on discrepancies that are above 15% of the respective position.

For the euro area aggregate, the level of discrepancies for debt securities was 7% of the underlying i.i.p. data, pointing to a very good degree of consistency with SHSS. At the level of individual countries, there were again no cases of relative discrepancies above 15% owing to SHSS under-coverage.<sup>46</sup>

The (positive) i.i.p. and SHSS gap is explained mostly by financial corporations other than MFI holdings of long-term debt securities issued by non-euro area countries. The main reasons for the differences are the lack of comprehensive coverage of non-ISIN securities data in SHSS,<sup>47</sup> the different revision policies for SHSS and i.i.p. data, the impact of derogations in SHSS and attempts in the i.i.p. statistics to cover securities held with custodians outside the euro area.

Further details are available in Charts A.1.4.15 to A.1.4.16 in Annex 1.

### 7.5.2 Listed shares and investment funds shares/units

For the euro area aggregate, the total discrepancy as a percentage of the underlying i.i.p. data was 5%. At the country level, discrepancies above the 15% threshold owing to SHSS under-coverage were recorded in Croatia,<sup>48</sup> Italy<sup>49</sup> and Malta. By contrast, Germany recorded lower figures for the i.i.p. than the SHSS amounts<sup>50</sup> for investment funds shares/units issued by non-euro area countries, for the most part, and held by German financial corporations other than MFIs.

To a large extent, the (positive) i.i.p. and SHS gap is explained by financial corporations other than MFI holdings of listed shares and investment funds shares/unit issued by non-euro area countries. The caveats mentioned for debt securities also hold true when it comes to explaining this discrepancy.

Further details are available in Charts A.1.4.13 to A.1.4.14 in Annex 1.

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<sup>46</sup> The discrepancy recorded by Cyprus and Greece reflect an over-coverage of SHSS amounts. The increase of the discrepancy in absolute terms observed for Luxembourg is partially explained by revisions of the i.i.p. data not fully reflected in SHSS.

<sup>47</sup> Non-ISIN debt securities holdings are reported to the securities holdings statistics database (SHSDB) by Belgium, Germany, Ireland, Greece, Croatia, Latvia, Lithuania, the Netherlands, Slovenia, and Finland.

<sup>48</sup> The gap is substantially reduced in Q1-Q2 2023 and reflecting a reclassification of equity from listed to unlisted in the i.i.p. data.

<sup>49</sup> To a large extent, the gap for Italy reflects the grossing-up performed on the i.i.p. side to estimate households' holdings of investment fund shares/units issued by other euro area countries.

<sup>50</sup> A similar situation as regards those discrepancies was observed for Greece and Slovenia, albeit relating to significantly lower amounts.

## 7.6 Coherence with insurance corporation and pension fund statistics

Following the update of the ECB Guideline on external statistics, quarterly information on transactions, positions and other flows by insurance corporations and pension funds (ICPFs) became available. These new details make it possible to compare the data collected under the Regulations on insurance corporations<sup>51</sup> (IC dataset) and pension funds<sup>52</sup> (PF dataset). On the asset side,<sup>53</sup> comparison is relatively comprehensive, while from the liabilities perspective only selected instruments in the IC and PF datasets, include a cross-border breakdown. Consequently, the analysis here focuses solely on the asset side and relates to transactions and positions.

At the euro area level, the relative discrepancies are very low for both transactions and positions and reflects a high consistency between the datasets. The average absolute discrepancy reached €13 billion for transactions and €62 billion for positions.

For transactions, at the country level, the relative discrepancies are, in general, relatively low. Malta is the country with the largest difference (4%), while the Netherlands is the highest in absolute terms (€9 billion). For positions, notable relative inconsistencies above 10% are observed in Estonia, Ireland, France and Malta. In absolute terms, the largest discrepancy is for France (€103 billion) and is linked mostly to equity instruments.

Further details are available in Charts A.1.4.17 to A.1.4.18 in Annex 1.

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<sup>51</sup> See [Regulation ECB/2014/50](#) which defines the statistical standards to be met by insurance corporations when reporting information on their assets and liabilities to the national authorities.

<sup>52</sup> The legal requirements for pension fund statistics are laid down in [Regulation ECB/2018/2](#), which defines the statistical standards to be met by pension funds when reporting information on their assets and liabilities.

<sup>53</sup> The only financial instrument for which a comparison is not feasible on the asset side is financial derivatives.

## 8 Asymmetries

Asymmetries are an inherent feature of all statistics for which “mirror” data are collected, i.e. for which two countries collect the same type of information in relation to each other. They occur when one country’s data do not correspond to the data for the same transaction reported by its partner country. However, for a variety of reasons, it is rarely the case that two data sources provide exactly the same results, and this leads to the emergence of asymmetries.

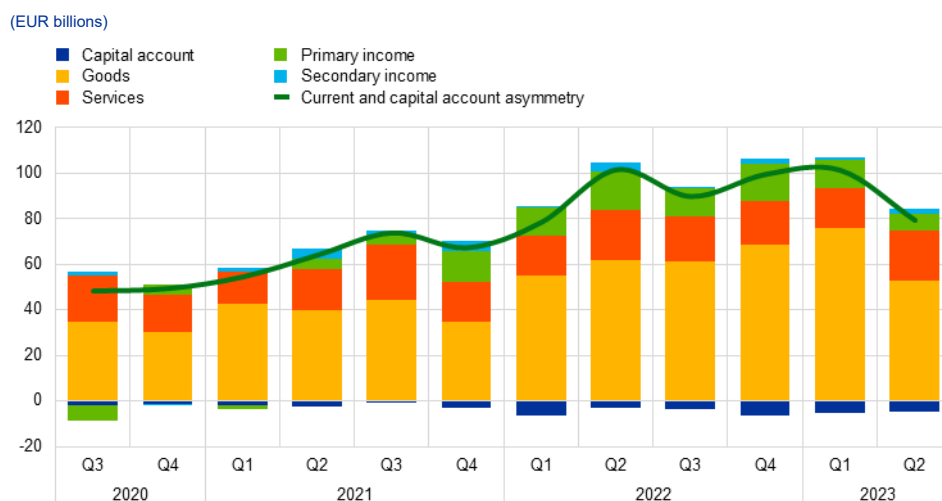
Asymmetries can be observed at the level of the global economy (where total world assets should equal total world liabilities), at the level of geographical aggregates (where total intra-euro area assets should match total intra-euro area liabilities) and at the level of bilateral pairs (where flows and positions between pairs of countries should match perfectly).

### 8.1 Intra-euro area asymmetries

Charts 12 and 13 provide an overview of intra-euro area asymmetries in the current and capital accounts and the financial account respectively.

**Chart 12**

Intra-euro area current and capital account asymmetries

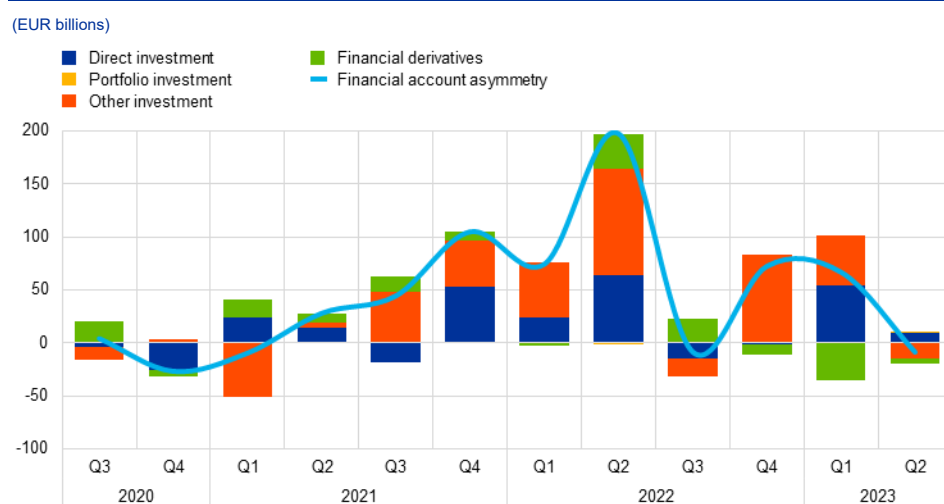


Source: ECB.

Current and capital account asymmetries (credits minus debits) were always positive over the period under review. The value of asymmetries almost doubled between the end of 2020 and the end of 2022, owing mainly to an increase in the asymmetries for goods and primary income. The increase in asymmetries for these items also reflects the increase in the value of gross flows of goods and primary income over the same period. The increase in asymmetries for goods is also related to inconsistent recording across countries of activities related to warehouse business and non-

resident VAT traders. Asymmetries for services remained broadly stable over the period under consideration and contributed further to the positive overall asymmetry. Secondary income and capital accounts only contributed to overall asymmetries in particular quarters.

**Chart 13**  
Intra-euro area financial account asymmetries



Source: ECB.

In the financial account, asymmetries were recorded mainly for direct and other investment. Portfolio investment and related income do not show asymmetries by construction, owing to the residual compilation approach at the euro area level. Asymmetries for financial derivatives were substantial only in specific quarters. Financial account asymmetries were fairly volatile over the period under review, with asymmetries for direct and other investment mostly contributing in the same direction to the overall asymmetry. Asymmetries for other investment were the main contributor to the overall financial account asymmetry in several quarters, reaching very large values in Q2 2022 and Q4 2022, owing mainly to large asymmetries for transactions in deposits and loans. Asymmetries for FDI transactions are regularly discussed and tackled in the context of the FDI ARM; thanks also to this initiative, asymmetries for FDI are less relevant compared with those observed in the Quality Report 2021.

## 8.2 Bilateral asymmetries

With the update of the ECB Guideline on external statistics, quarterly bilateral transactions and positions between euro area countries are now transmitted to the ECB on a mandatory basis for several b.o.p. categories and instruments. Owing to longer times series (the data having previously been sent on a voluntary basis only), analysis of bilateral asymmetries between euro area countries is performed here solely for direct investment.

The internal country geographical quality (ICGQ) and external country geographical quality (XCGQ) indicators measure the quality of the geographical breakdown. The ICGQ indicator assesses the accuracy of individual countries' geographical classification within the sample of countries for which bilateral data are available by aggregating absolute bilateral asymmetries. The XCGQ indicator shows how well a country's reported intra-euro area aggregate matches its mirror data, calculating the difference between the intra-euro area figure reported by the country under consideration and the corresponding figure derived from counterpart data. More information on these indicators can be found in the section on "Methodological documentation for quality indicators".

The results of the ICGQ indicator for FDI transactions were characterised by significant variability across countries and over time. Several countries, in particular Malta and Cyprus, consistently recorded high scores across the entire time period, indicating structural problems in matching counterparts' transactions. The majority of countries experienced high volatility in the measures over time, pointing to quarter-specific problems in capturing the geographical detail of transactions rather than to structural issues.

The results for the XCGQ indicator were generally better than those recorded for the ICGQ indicator, given that the former is less about matching up individual country counterparts and merely measures how well the counterparts as a group match a country's estimate for that group. Consequently, most of the countries performed relatively well across the entire time period. This finding is welcome from the point of view of the quality of overall euro area data. Nonetheless, several countries recorded fairly poor results in a single quarter, while Malta showed poor results in several quarters.

For both quality measures, the results recorded for FDI positions were better than those observed for transaction data. Malta and Cyprus stand out for having the highest value for the asymmetry indicators, showing a recurrent difficulty in matching their figures with those from the counterparty countries.

Overall, it would appear that countries that are characterised by large numbers of SPEs and that are known to face challenges when it comes to capturing and measuring the activities of those institutions were found to have structural problems in matching the figures provided by their euro area counterparts.

Further details are available in Tables A.1.5.1 to A.1.5.4 in Annex 1.<sup>54</sup>

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<sup>54</sup> The following principles underlie this exercise and the results provided in the main text and associated annex tables:

- The analysis was performed on data for the Q3 2015 to Q2 2018 reporting period.
- The measurements were calculated for each reporting period, with analysis only carried out for countries that met a coverage threshold of 80% (i.e. if more than 20% of the value allocated to the euro area aggregate was not geographically specified, the cell was suppressed).
- The results are presented using a traffic light approach. Each cell is coloured using a continuous scale, ranging from green (value of 0) to red (value of 1).

## MIP Box

### Quality indicators for the b.o.p. and i.i.p. statistics underlying the MIP

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The MIP scoreboard for the Alert Mechanism Report consists of 14 headline indicators for the early detection of existing or emerging macroeconomic imbalances at EU member level. The MIP scoreboard is complemented by auxiliary indicators that provide a better understanding of the risks and help to identify relevant policy measures.

The composition of the MIP indicators is subject to review and evolves over time in order to reflect the latest developments or increased data needs. Most of these indicators are composite, i.e. they make use of at least two data sources.

B.o.p. and i.i.p. data underpin the construction of the following three headline indicators:

1. current account balance (percentage of GDP), three-year backward moving average (up to 13 years of data required);
2. net international investment position (percentage of GDP) (up to ten years of data required);
3. export market share (percentage of world exports), five-year percentage change (up to 15 years of data required).

Additionally, b.o.p. and i.i.p. data are used for five auxiliary indicators:

1. current plus capital account balance (net lending/borrowing) (percentage of GDP) (ten years of data required);
2. net international investment position excluding “non-defaultable” instruments<sup>55</sup> (NENDI) (percentage of GDP) (ten years of data required);
3. FDI in the reporting economy, flows (percentage of GDP) (ten years of data required);
4. FDI in the reporting economy, positions (percentage of GDP) (ten years of data required);
5. export performance against advanced economies (percentage of OECD exports), five-year percentage change (15 years of data required).

Together, these indicators provide analytical evidence of possible vulnerabilities and risks that would require further investigation at country level.

The b.o.p. and i.i.p. data underlying the MIP indicators are converted with an annual frequency, while b.o.p. and i.i.p. data are compiled on a quarterly basis. The annual conversion for b.o.p. data is calculated as the sum of four underlying quarters, while for i.i.p. data the position at the end of the fourth quarter is equal to the position at the end of the year.

The following sections assess the fitness for purpose of the b.o.p. and i.i.p. data used for the [2022 MIP scoreboard](#) (at the MIP cut-off date of 31 October 2023), analysing the data vintage used in the [2024 Alert Mechanism Report](#).

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<sup>55</sup> Instruments that cannot be subject to default: FDI equity and equity shares and inter-company cross-border FDI debt.

### **Institutional set-up**

B.o.p. and i.i.p. data are transmitted to the ECB, in accordance with the ECB Guideline on external statistics, and to Eurostat, in accordance with [Regulation \(EC\) No 184/2005](#). This Quality Report follows the basic principles laid down in the document entitled “[Public commitment on European statistics by the ESCB](#)” and is a requirement under Article 6(1) of the ECB Guideline on external statistics. This report is fully coordinated with the report produced by the European Commission (Eurostat) in accordance with Article 4(4) of Regulation (EC) No 184/2005. The quality assessment of the Eurostat report is conducted in accordance with the “[European Statistics Code of Practice](#)”.

The indicators used for the MIP are provided by Eurostat based on statistics compiled by NSIs or NCBs in the Member States. Under the MoU (and the related letters that were exchanged) signed in November 2016, the European Commission and the ECB mutually recognised the quality assurance frameworks in place for the European Statistical System (ESS) and the ESCB, and established practical working arrangements for cooperation with regard to the quality assurance of the statistics underlying the MIP.

The MoU specifies that Eurostat and the ECB’s Directorate General Statistics (DG/S) should regularly conduct assessments of the quality of national datasets. More specifically, it requires the ECB’s DG/S to run its quality procedures for the datasets reported by NCBs, and to provide Eurostat with quality assured datasets and/or information on the quality of the data after the regular data transmission in September/October each year. The MoU also provides for MIP visits by the ECB’s DG/S and Eurostat to NCBs and/or NSIs to facilitate the assessment of the output quality of MIP-relevant data. As a result of those visits, the recommendations made for improving data quality are included in the relevant sections of this report.

To ensure full transparency with regard to the quality of MIP-related statistics, a three-level quality reporting system has been set up over the past years, with the support of the CMFB. The system consists of national self-assessment reports (Level 3), which feed into the domain-specific quality reports (Level 2) – including this report – which are coordinated between ECB and Eurostat. Finally, a joint Eurostat/ECB summary report (Level 1) assessing the quality of all statistics underpinning the MIP is published each year on the [CMFB’s website](#).

### **Data availability and confidentiality**

The relevant ECB and European Parliament and Council legal acts do not impose any backdata requirements, in compliance with the BPM6 statistical standard. Nonetheless, most national compilers have provided the backdata for the current account and net international investment position required for the calculation and analysis of the MIP indicators.

As a result, there are no data coverage limitations on headline indicators for any country. With regard to auxiliary indicators, there are still coverage limitations affecting the NENDI indicator for Malta before 2021 (details of equity securities stocks are not available separately from investment fund shares prior to that date).

No countries are subject to confidentiality constraints on the series used in the MIP assessment process.

## Sources and methods

Since the Quality Report 2021, some EU Member States have further improved the quality of their b.o.p. and i.i.p. data used in the MIP process. In Malta, for instance, a new administrative data source (supplementing the annual survey) improved the understanding of Special Purpose Entities' (SPEs) activities and, as consequence, their classification between portfolio and direct investment. In addition, a new quarterly survey for resident custodians improved the data quality for the household sector, while data collection for reverse investment in FDI benefited from information collected through a new questionnaire from 2021 onwards. In the Netherlands, the implementation of a new method to ensure the reconciliation between stocks and flows led to a strong reduction in other volume changes and the stabilisation of counterparty geographical aggregates. In Ireland, the compilation of financial derivatives transactions for financial corporations improved from Q2 2019, while in Sweden the data quality of portfolio investments was enhanced with new sources for statistics on securities from 2019 onwards, and Croatia started recording the entries counterbalancing EU funds in other accounts payable/receivable on a gross basis.

In addition, improvements were recorded by Cyprus (which mostly explained the revisions), linked to better capturing the activities of SPEs. Germany started compiling portfolio investment liabilities debt securities at market prices, Greece aligned its annual and quarterly national accounts with the travel services statistics recorded in the b.o.p., and Latvia introduced payment card data (a new source) to assess some components of the b.o.p. (travel services, and e-commerce of goods and services).

While the compilation of b.o.p. and i.i.p. data in EU Member States is deemed methodologically sound, there are challenges when it comes to measuring some components and complying with all EU recommendations and/or BPM6 standards. Outstanding limitations and deviations from the recommendations (and BPM6) are still observed, mostly in the measurement of some components of FDI, in particular, with regard to: (i) transactions between fellows and reverse investment in equity, (ii) direct investment income, and (iii) the valuation of unlisted shares and other equity, which may affect the accuracy and comparability of some details. As in the past, the impact of economic globalisation on macroeconomic statistics and the difficulties in collecting accurate and consistent data from multinational enterprises is still visible. In this context, both the FDI network and the quarterly Asymmetry Resolution Mechanism (ARM) support the homogenous recording of large FDI operations across countries and foster the sharing of (micro) data between compilers. This more accurate recording of large FDI operations is sometimes reflected in sizeable revisions of the FDI series concerned.

For more detailed information, see Table 1 in the executive summary and Section 2.

## Accuracy and reliability

Regular revisions have been transmitted by countries – in some cases in response to improvements in the quality of b.o.p. and i.i.p. data.

Recent examples affecting the current account include large revisions (in terms of GDP) reported by the Netherlands (mostly concerning upward revisions of FDI income related to higher adjusted profits of listed multinational enterprises and larger exports of goods than previously estimated) and Luxembourg (mostly due to larger exports of financial and other business services than previously estimated). In the last case, the revisions altered the analytical interpretation of the 2021 MIP current account indicator, by moving its value outside the threshold range. The relatively moderate



revision implemented in Sweden (affecting services and primary income) also moved this indicator outside the threshold range.

For the net international investment position, sizeable revisions were reported by Malta (mainly relating to FDI and portfolio investment), followed by Luxembourg (relating to late reporting by captive financial institutions and investment funds, and to a lesser extent, the implementation of actions discussed in the context of the ARM), and Ireland (as a result of upward revisions of total financial assets, due to the new compilation system and more available data). These revisions did not significantly alter the analytical interpretation of the corresponding MIP headline indicator.

### **Internal consistency**

For the quarterly b.o.p. and i.i.p., most countries fulfil all validation (accounting) rules. However, the reconciliation of positions and flows is still sometimes an outstanding issue (in Malta prior to 2021 and in Sweden) and the reporting of zero in some series also creates a number of inconsistencies (Malta).

With regard to series breaks, the following issues have been identified from 2013 onward:<sup>56</sup>

**Czech Republic:** Major breaks are observed in Q1 2017 in assets and liabilities in the total financial account;

**Croatia:** Major breaks are observed in financial derivatives asset stocks in 2014, in direct investment asset stocks in Q1 2014 and in secondary income debits after Q2 2013;

**Luxembourg:** Relevant series breaks in FDI positions are observed in Q4 2014, all related to the coverage of captive financial institutions;

**Malta:** A large break in the i.i.p. time series is observed between Q3 2021 and Q4 2021;

**The Netherlands:** Major breaks are visible for several items between Q4 2014 and Q1 2015 due to the inclusion of new data sources and an updated compilation system;

**Slovakia:** Portfolio investment equity (listed shares) exhibited breaks in 2010 and 2012 (for assets and liabilities respectively).

It should be noted, however, that countries are continuously making efforts to improve their data and transmissions submitted after the cut-off date could have already resulted in improved data quality.

Average national **net errors and omissions** (in absolute values) in 2020-22 were above 2% of both GDP (see Chart MIP A) and current account transactions in Bulgaria, Hungary and Sweden and above 2% of current account transactions in Latvia, Austria and Finland. It is important to highlight that some euro area countries have formal correction mechanisms to address this problem, by definition leading to reduced levels of errors and omissions.

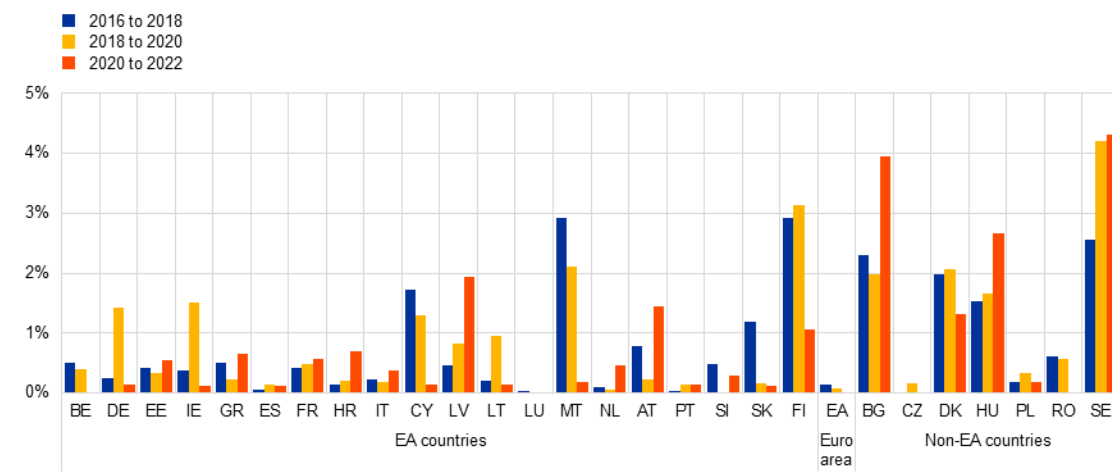
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<sup>56</sup> The transmission of data prior to 2013 is not required under the ECB Guideline on external statistics but is provided on a best-efforts basis.

## Chart MIP A

### Average net errors and omissions

(absolute value as a percentage of GDP, annual data)



Source: ECB.

### External consistency

The methodological differences between the b.o.p./i.i.p. and the RoW account (national accounts) were removed with the introduction of the ESA 2010 and the BPM6. Further inconsistencies between the two statistical domains were largely removed towards the end of 2019 following the implementation of the CMFB's medium-term work plan and the efforts made to improve data.

Notwithstanding, in terms of consistency with quarterly national and sectoral accounts, discrepancies of above 0.5% of GDP were observed for both credits and debits in Bulgaria, Czech Republic, Estonia, Greece, France, Luxembourg and Malta (above 100%), and in credit only in Poland. For the financial account positions, discrepancies of above 10% of GDP were still observed for both credits and debits in Luxembourg and Malta (far above 100%), on the liabilities side in Greece and Ireland, and on the assets side in France.

The next benchmark revision is expected to significantly reduce or ideally eliminate the existing inconsistencies.

The remaining discrepancies will be analysed in depth by ECB and Eurostat.

## MIP Table A

### Annual absolute revisions – balance/net items for 2021

(percentage of GDP)

	Current and capital accounts								Financial account transactions		Financial account positions			
	Current account	Goods	Services	Goods and services	Primary income	Secondary income	Capital account	Current and capital accounts	Direct investment transactions	Direct investment positions	Portfolio investment equity securities positions			
											Assets	Liabilities		
<b>Euro area</b>														
<b>BE</b>	0.88	0.79	0.07	0.72	0.15	0.01	0.01	0.88	0.79	0.76	8.05	9.28	0.00	0.00
<b>DE</b>	0.38	0.06	0.12	0.19	0.33	0.14	0.01	0.38	1.83	0.04	2.33	2.38	0.00	0.35
<b>EE</b>	0.77	0.11	0.75	0.64	0.22	0.36	0.03	0.74	0.12	0.48	0.30	1.99	0.17	0.00
<b>IE</b>	0.26	0.27	1.12	1.40	1.65	0.01	0.52	0.78	0.86	0.56	11.97	4.50	1.83	0.05
<b>GR</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.22	0.00	0.00
<b>ES</b>	0.18	0.34	0.17	0.50	0.26	0.06	0.01	0.19	0.00	0.01	0.35	0.02	0.00	0.04
<b>FR</b>	0.00	0.00	0.06	0.06	0.04	0.02	0.09	0.08	0.06	0.85	1.16	3.04	0.12	0.15
<b>HR</b>	2.10	1.31	0.02	1.28	0.86	0.04	0.05	2.05	0.89	0.40	1.90	2.18	0.72	0.03
<b>IT</b>	0.57	0.25	0.14	0.11	0.47	0.02	0.24	0.32	0.32	0.37	0.45	0.33	0.44	0.05
<b>CY</b>	0.50	0.32	1.47	1.14	0.63	0.01	0.10	0.41	2.57	13.56	9.50	82.78	0.08	20.77
<b>LV</b>	0.31	0.05	0.25	0.31	0.00	0.01	0.00	0.30	0.00	0.06	0.39	0.11	0.01	0.00
<b>LT</b>	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.70	0.05	0.03	0.02	0.00	0.00
<b>LU</b>	3.23	0.09	3.89	3.81	0.55	1.12	0.18	3.05	1.53	58.13	12.04	186.90	25.05	10.48
<b>MT</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.63	872.08	705.00	1.09
<b>NL</b>	5.05	1.22	0.05	1.16	3.80	0.08	0.00	5.05	4.95	4.51	1.87	3.90	1.74	0.45
<b>AT</b>	1.29	0.07	0.16	0.23	1.11	0.04	0.03	1.27	1.92	0.51	0.84	0.89	0.00	0.08
<b>PT</b>	0.41	0.05	0.14	0.09	0.38	0.06	0.00	0.40	0.40	0.31	0.42	0.07	0.08	0.04
<b>SI</b>	0.49	0.00	0.49	0.49	0.20	0.20	0.21	0.28	0.92	0.03	0.89	0.68	0.00	0.01
<b>SK</b>	1.50	0.19	0.00	0.19	1.69	0.00	0.18	1.68	1.45	1.56	0.51	0.54	0.00	0.00
<b>FI</b>	0.23	0.23	0.03	0.20	0.05	0.02	0.00	0.23	0.35	0.07	2.37	0.05	0.00	0.00
<b>Non-euro area</b>														
<b>BG</b>	1.23	0.00	0.15	0.15	1.37	0.01	0.00	1.23	0.80	0.37	1.03	0.80	0.00	0.00
<b>CZ</b>	1.91	0.07	0.08	0.15	1.77	0.01	0.14	1.77	0.84	0.39	1.17	0.73	0.00	0.00
<b>DK</b>	0.26	0.24	0.07	0.31	0.55	0.02	0.01	0.25	2.48	1.20	2.69	2.13	0.03	0.00
<b>HU</b>	0.07	0.08	0.18	0.10	0.05	0.08	0.01	0.08	0.12	0.26	0.77	0.47	0.05	0.00
<b>PL</b>	0.15	0.01	0.00	0.01	0.16	0.00	0.04	0.19	0.21	0.25	0.32	0.17	0.00	0.10
<b>RO</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
<b>SE</b>	1.47	0.32	0.23	0.55	0.91	0.01	0.14	1.33	1.28	1.35	0.40	0.60	0.00	0.00

Source: ECB.

Note: All the indicators are compiled using neither seasonally adjusted nor calendar adjusted data.

# Annexes

See [more](#).

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