



## **Consistency between National Accounts and Balance of Payments statistics – the status of consistency in the nonfinancial accounts**

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### **Abstract**

In 2014 the process of methodological convergence in the compilation of European National Accounts and Balance of Payments statistics (BOP) was finally concluded. Hence, in applying both methodologies respectively, the European System of Accounts 2010 (ESA2010) and the Balance of Payments and International Investment Position Manual in its 6th edition (BPM6) suggest a high degree of comparability and consistency between BOP and the external account of the National Accounts. The essential question remains how the propagated methodological consistency is reflected in the statistical data. This paper presents the updated results of a data comparison between European Balance of Payments statistics and the rest of the world account of National Accounts conducted by Eurostat. It is based on available statistical data, surveys, quality reports, ad-hoc data confrontations and feedback from compilers, and concludes that full consistency and comparability of the two statistics still does not apply. Possible reasons for discrepancies, where applying, are discussed in the light of recent research, which is still ongoing. Uncoordinated compilation practices and the use of different data sources in the two statistics appear as major cause for discrepancies, resulting from decentralised production processes in most of the EU Member States. Thus, a higher degree of coordination and reconciliation appears necessary in order to achieve.

**Keywords:** balance of payments; sector accounts, international trade in services, external consistency.



## 1. Introduction

By end-2014 the process of convergence in the methodological standards for the compiling of European National Accounts and Balance of Payments statistics (BOP) was finally concluded. Hence, in applying both methodologies respectively, the European System of Accounts 2010 (ESA2010) and the Balance of Payments and International Investment Position Manual in its 6<sup>th</sup> edition (BPM6) ensure a high degree of comparability and consistency between BOP and the external account of national accounts (rest of the world account)<sup>1</sup>. The essential question in this context remains how this methodological consistency is reflected in the statistical data, and if not, on what grounds discrepancies continue to exist. In this paper we will present the latest results of a consistency analysis between European Balance of Payments statistics and the rest of the world (ROW) account of National Accounts, based on the statistical data available to Eurostat from the nonfinancial accounts in both statistics<sup>2</sup>. It will give statistical evidence whether the two statistics can be considered to be consistent. The data comparison comprises the components of the nonfinancial accounts – goods, services, primary and secondary income, and the capital accounts. We establish overall patterns in the EU-28 and originator countries, and finally conclude on the major causes for discrepancies, thus recommending reconciliation practices in the concerned Member States.

## 2. Measuring BOP-ROW consistency in the EU-28

### Time frame and methodology of Eurostat's regular data comparisons

Regular data comparisons of quarterly statistics in BOP and the rest of the world (ROW) sector account are conducted by Eurostat since 2015 after the introduction of the BPM6 standard in European BOP statistics. Data are compared from quarterly statistics<sup>3</sup>, thus effectively reflecting back data revisions during the compilation year. Discrepancies are measured on gross transactions in the underlying nonfinancial accounts, as patterns could be different for export or import transactions in the accounts. This appears instrumental to avoid offsetting effects. For this purpose the respective transactions in BOP are compared with those of the Sector Accounts (QSA), and annualised in order to facilitate reading. The prevailing data comparison refers to the latest data releases of January 2017. It compares the releases of QSA which are published about 3 weeks after QBOP in European statistics<sup>4</sup>.

### Recent results on BOP-ROW consistency in a nutshell

Against the methodological consistency of the standards current measures confirm an overall exposure to discrepancies in some components of the European nonfinancial accounts (Table 1), assuming total absolute discrepancies as a sum of absolute discrepancies occurring in all 28 Member States on average around EUR 206 billion over the observed period (1.5% of average EU-28 GDP 2010-2015). In 2015 the extent of absolute discrepancies culminated to EUR 272 billion (1.9% of GDP) in the EU. The measured discrepancies affect in particular the goods, services and primary income accounts, where elevated discrepancy levels were observed over the past years with usually higher measures for 2015 in these components.

<sup>1</sup> BPM6 Appendix 7, ESA2010 Chapter 18

<sup>2</sup> Eurostat does not provide of all necessary component data in order to sufficiently analyse the financial accounts in more detail. About the limitations to the analysis of the financial accounts, see Obrzut (2016), p. 113f.

<sup>3</sup> Quarterly BOP (QBOP) and the ROW sector of the Quarterly Sector Accounts (QSA)

<sup>4</sup> The latest report can be download from "Statistics Explained": [http://ec.europa.eu/eurostat/statistics-explained/index.php/Consistency\\_between\\_national\\_accounts\\_and\\_balance\\_of\\_payments\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Consistency_between_national_accounts_and_balance_of_payments_statistics)



**Table 1: Absolute BOP-ROW discrepancies in the nonfinancial accounts, sum of EU-28 Member States, by BOP item, 2010-2015 (EUR million; percentage of GDP)**

	2010	2011	2012	2013	2014	2015
Goods	26 478	26 029	26 781	30 799	29 688	67 390
Services	66 245	64 995	70 294	68 591	81 271	106 554
Primary income	52 149	63 479	42 033	38 678	52 831	57 112
Secondary income	31 896	31 651	36 710	34 232	33 324	31 085
Capital account	9 727	15 466	11 264	7 600	10 918	10 264
<b>Total</b>	<b>186 495</b>	<b>201 620</b>	<b>187 082</b>	<b>179 900</b>	<b>208 031</b>	<b>272 404</b>
% EU-28 GDP	1.5	1.5	1.4	1.3	1.5	1.9

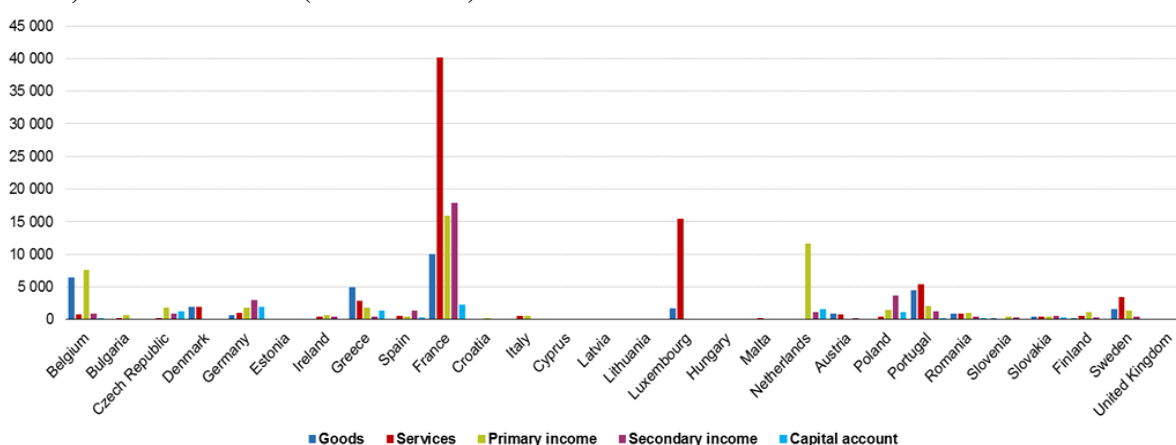
Source: Eurostat

Services and goods show to some extent a parallel evolution, as the underlying discrepancies also contain a systematic bias due to different classification practices of component items between goods and services (e.g. treatment of goods acquired by households abroad and/or travellers) in the National Accounts and BOP. However, in regard to total transaction volumes the exposure in services appears much more prominent than in goods. Differences in the primary income accounts relate most prominently to the component “property income” (D4), which due to its heterogeneous character and high incidence of estimations (e.g. on reinvested earnings, direct investment income) gives sufficient causes to divergent compilation practices among compilers.

Despite the above evidence of persistent discrepancies, we may also conclude on the beneficial impact of data revisions during the past year. Since October 2015 a considerable downward shift in discrepancy levels has been noticed, thus effectively reflecting most European compilers’ ambitions to reconcile their statistics. Overall total absolute discrepancies of the EU-28 fell from a multiannual average of EUR 274 billion in October 2015 to around EUR 206 billion in January 2017 for the observed period 2010-2015. This is an improvement of ca. 25%, bringing down relative exposure to discrepancies from earlier above 3% to below 2% of total EU-28 GDP.

In view of the underlying country data of the EU-28, the geographical image of discrepancies in the EU-28 appears however highly dispersed. Major discrepancies originate from a group of 6 Member States only (Figure 2).

**Figure 2: Absolute discrepancies in the European nonfinancial accounts by EU-28 Member States, mean 2010–2015 (EUR million)**



Source: Eurostat – Absolute discrepancies = BOP minus ROW items

Depending on their exposure to the components of the nonfinancial accounts France, Luxembourg, Belgium, the Netherlands, Portugal and Greece show absolute discrepancies higher than EUR 10 billion in their multiannual means 2010-2015. These countries contribute currently to more than 76% of all discrepancies in the EU-28. 42% of mean annual discrepancies during 2010–2015 alone are



attributed to France, which is currently the main contributor to BOP-ROW discrepancies in Europe. On the other hand the statistics of the United Kingdom, Cyprus or Ireland appear fully consistent. In relative terms to the countries' GDP, discrepancies appear significantly downsized, except for Luxembourg (services 34% of GDP).

### **How does inconsistency impact statistical comparability?**

How relevant the consistency issue however can be, is illustrated by its impact on the statistical comparability. Due to the occurrence of high discrepancies, opposite signs in the account balances of both statistics could be the consequence, thus posing a considerable challenge to the economic reading of the data. In some Member States these signs for balances appear contradictory: France appears as net exporter in BOP services of EUR 8.8 billion, but equally a net importer of EUR 8.8 billion in ROW services (2014: BOP EUR +16.9 billion; ROW EUR -5.6 billion). Further, in its capital account it appears as BOP net exporter of EUR 2.1 billion, but minor ROW net importer of EUR 0.1 billion. Poland reports a negative balance in its BOP secondary income account of EUR 0.8 billion, but a positive balance in the corresponding ROW of EUR 3.1 billion in 2015. For Luxembourg the BOP balance of goods is negative (EUR -2.6 billion) and consequently labels the Luxembourg economy as net importer of goods. Its ROW for goods accounts however a surplus of EUR 1.7 billion, labelling the country as net exporting economy for goods. Belgium reported a net import in its BOP primary income account of EUR 0.9 billion and a slight net export in the corresponding ROW of EUR 0.1 billion. We must assume that these examples are either based on deviating understanding in reporting of sign conventions, or illustrate the most dramatic consequences of inconsistent time series, allowing for contradictory conclusions<sup>5</sup>.

### **3. Reasons for discrepancies – findings and ongoing work**

Due to the potential impact on comparability, a clearer view on the causes for inconsistent statistics is deemed instrumental. Since the introduction of the BPM6 to European BOP statistics, Eurostat has launched two surveys among European compilers, which allowed them to give explanations for the measured discrepancies in both statistics<sup>6</sup>. This feedback from the compilers helped to establish a few patterns about discrepancies.

- The organisational setup of national compilation processes plays a prominent role in explaining the occurrence of discrepancies. Decentralised statistical compilation systems lead more likely to institutional coordination and thus consistency issues.
- Different access to (micro) data sources or source statistics could generate discrepancies, in particular for items that can be measured from a heterogeneous spectrum of data sources. These data sources come to the compiler also at different frequencies in BOP and National Accounts statistics. Further, “contagion effects” arising from different (vintages of) source data, could import discrepancies to the final statistical product (e.g. financial data for the calculation of investment income)<sup>7</sup>.
- Items that are difficult to measure by surveys or administrative data sources are naturally subject to estimations or extrapolations (e.g. FISIM<sup>8</sup>, CIF/FOB adjustment<sup>9</sup>). Their uncoordinated use could pave the way for discrepancies.

<sup>5</sup> The 5 incidents are currently under investigation by the respective Member States.

<sup>6</sup> Results were published in a dedicated Working Paper, see Eurostat (2016), which were confirmed by the recent exercise in 2017.

<sup>7</sup> Obrzut (2016), p. 118

<sup>8</sup> Financial Intermediation Services Indirectly Measured (FISIM)

<sup>9</sup> Cost Insurance Freight (CIF) and Free On Board (FOB). The standards require an adjustment in order to make export and import transactions comparable.



- The methodological standards serve different statistical purposes. As a consequence the manuals are not always specific as regards thematic issues in the mirror statistics (e.g. the concepts of tourism and travel, delineation of goods and services). This leaves room for interpretation when applied by more than one compiler, resulting in different compilation practices due to consistency aspects with other macroeconomic statistics.
- Due to the specific objectives in each statistics and the foregone investment in IT infrastructure, (automatic) compilation systems are less flexible for being redesigned or adapted to new needs. As a consequence compilers generally appear less inclined to challenge already established and effectively working operational processes, even when their statistical products diverge from each other to some extent (low relative discrepancies).
- Institutional peculiarities foster discrepancies arising from different delineations of economic sectors (e.g. captive financial institutions, government-owned banks) or the economic territory<sup>10</sup>.
- Different institutional progress in fully adopting the corresponding statistical standards BPM6 and ESA2010 also explained to some extent the occurred discrepancies in the past (e.g. the inclusion of FISIM or illegal economic activities).
- Revision and vintage effects always persist as “statistical noise” due to different publication calendars and revision practices. Consequently, zero absolute discrepancies appear only achievable from fully integrated production systems (e.g. United Kingdom).

#### 4. Conclusions and outlook

In this paper we investigated whether the current data releases of BOP and National Accounts in the EU-28 reflect the required methodological consistency of the BPM6 and ESA2010 standards. We discovered that discrepancies still persist to an extent of ca. 2% of GDP in the EU-28, but in absolute terms concentrate around a few countries only. We noticed also promising trends towards higher convergence since 2015, but the revision work of European compilers did so far not succeed in achieving full consistency of the two statistics in all Member States. Studies in the causalities for BOP-ROW discrepancies have shown that the underlying reasons are prominently of more systemic character, resulting from the (decentralised) organisational setup of statistical production processes, and different rationales and production calendars applying to both statistics. In the short-term a higher degree of coordination both in national compilation/estimation practices and the choice of data sources should be sought. These entail also endeavours towards a common reading of the methodological standards by BOP compilers and national accountants, in particular where gaps or omissions appear. In the long-term international initiatives appear necessary in order to review the statistical manuals for their full consistency – by providing more specification on problematic issues, excluding contradictory passages and adopting a common terminology. International organisations however are challenged with both “closing the gaps” in the standards which still foster diverging compilation practices, and reconciling also conflicting consistency requirements arising from other macroeconomic statistics (e.g. input-output tables).

The case of the Irish National Accounts<sup>11</sup> has illustrated that highly consistent BOP-ROW accounts alone cannot tackle the challenges of globalisation, but countries with consistent statistics have successfully gone through the process of national coordination and seem therefore better in position to adapt to a changing economic environment. By questioning and reviewing traditionally established operational processes in the light of new challenges, a broader view on global production chains, economic activities of MNEs or cross-border transactions in international trade can be gained, leaving

<sup>10</sup> For example, Swiss BOP and National Accounts treat the principality of Liechtenstein differently.

<sup>11</sup> Central Statistics Office, Ireland (2016):

<http://www.cso.ie/en/media/csoie/newsevents/documents/IrelandEconomicGrowthFigures.pdf>



the national domains of monolithic and autonomous compilation systems<sup>12</sup>. Without consequent (mirror) data confrontations, data sharing of both micro- and macro-data, investigative team work or promoting common views upon the methodological standards beyond the limits of national reasoning, progress appears difficult to achieve.

Some successful examples of the past have shown that the provision of common access to reference databases from micro data (CSDB<sup>13</sup>) can effectively contribute to more harmonised (financial) statistics. Initiatives in attaining a higher degree of international standardisation of enterprise identifiers and common access to business registers also appear promising<sup>14</sup>, although comprehensive coverage is still an obstacle for a breakthrough. International quality initiatives such as the establishment of an FDI Network<sup>15</sup> have emphasised the prominence of international coordination for the sake of more symmetric statistics on international transactions. In the light of the above experience the following obstacles seem to hamper progress and will prominently remain on statisticians' agenda during the oncoming years:

- Institutional autonomies and strategic rationales;
- Resource restrictions on human and IT capacities;
- Need for flexibility in adjustment practices among compilers;
- Strict confidentiality regimes;

This list of structural obstacles finally suggests that a paradigm shift is necessary in order to tackle them, by moving away from autonomous statistical compilation systems and rationales towards more systematic cross-border sharing of information, access to common databases, coordinated cross-border profiling (e.g. "early warning systems", "large cases units"), as well as unique and linked identifiers in coordinated registers, in order to tackle the increasing complexities of interlinked economies in a globalised environment.

## References

- Central Statistics Office (2016) – Ireland's Economic Growth Figures 2015, Press Release 12<sup>th</sup> July 2016, Cork, Ireland
- Eurostat (2016) – Consistency between national accounts and balance of payments, Working Paper, Luxembourg
- Fortanier F., et al (2016) – Asymmetries in Merchandise trade and trade in services statistics: Introduction to the Country Notes, OECD, Paris
- Obrzut R. (2016) – Consistency between national accounts and balance of payments statistics, in: EURONA, Luxembourg
- Pérez Cornejo A./ Huerga J. (2015) – The Centralised Securities Database (CSDB): Standardised micro data for financial stability purposes, BIS Working Papers, Basle
- Stapel-Weber S./ Verrinder J. (2016) – Globalisation at work in statistics: Questions arising from the 'Irish case', in: EURONA, Luxembourg
- BPM6 – Balance of Payments and International Investment Position Manual, Sixth edition, IMF, Washington DC 2009
- ESA2010 – European System of Accounts, Eurostat, Luxembourg 2013

<sup>12</sup> Stapel-Weber/Verrinder (2016)

<sup>13</sup> Centralised Securities Database, Pérez/Huerga (2015)

<sup>14</sup> Legal Entity Identifier (LEI): <https://www.gleif.org/en>

<sup>15</sup> <https://www.imf.org/external/pubs/ft/bop/2014/pdf/14-20.pdf>