



# Thirty-Second Meeting of the IMF Committee on Balance of Payments Statistics

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BOPCOM—19/14  
For discussion

## Analysis of Net Errors and Omissions



## **Analysis of Net Errors and Omissions<sup>1</sup>**

*The need to reinforce analysis of the balance of payments net errors and omission was underscored at the Thirty-First Meeting of the IMF Committee on Balance of Payments Statistics (Committee) and was included in the action plan for implementation of the Committee's research agenda. This paper reports on the stocktaking of the recent trends in countries' balance of payments net errors and omissions and on the results of the BOPCOM members' survey on net errors and omissions. It presents assessments of global trends and countries validation practices; and suggests directions to deepen the work in this area for the Committee's consideration. This includes a follow up exercise to address bilateral asymmetries, for which Committee members may volunteer to participate.*

### **I. INTRODUCTION**

1. Following the outcome of the Godeaux Report, the IMF Committee on Balance of Payments Statistics (Committee) was created with the core objective of addressing possible reasons for global discrepancies in balance of payments statistics.<sup>2</sup> The IMF Statistics Department (STA) monitors global imbalances and the Annual reports of the Committee to the IMF Board<sup>3</sup> have consistently noted trends toward increasing imbalances in the global balance of payments accounts (external balance of payments asymmetries); and an increasing value, with a persistently negative sign, in the global aggregate of errors and omissions (evidencing countries' internal balance of payments asymmetries).
2. In August 2019, STA conducted an exploratory survey on the balance of payments net errors and omissions (NEO) targeted at Committee members. Twelve completed survey questionnaires were received. The survey asked three sets of questions:
  - (i) do economies assess their NEO when compiling balance of payments? Are there any generally acceptable levels or indicators to assess NEO?
  - (ii) can economies identify specific balance of payments accounts that are main contributors to the NEO? In particular, what are the main causes of the NEO?
  - (iii) are there any other factors that play a significant role in NEO accumulation?
3. The following sections contain analysis of trends in countries' internal balance of payments asymmetries (Section II), overview of countries practices in tackling NEO based

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<sup>2</sup> Godeaux Report: Final Report of the Working Party on the Measurement of International Capital Flows, Washington: IMF, 1992.

<sup>3</sup> <https://www.imf.org/external/bopage/arindex.htm>

on exploratory survey results (Section II) followed by brief summary of findings (Section III).

## II. GLOBAL TRENDS IN NET ERRORS AND OMISSIONS

4. Over the period of 1998–2018, the global aggregated balance of payments NEO had an initial seven-year period of sign fluctuations at the absolute size not exceeding US\$100 billion per annum; and starting from 2005, the NEO featured a persistent negative sign with the highest value recorded in 2012 (USD 400 billion). Growing at a significant average rate of 50 percent annually (with a potential effect of outlying sharp fluctuations not removed), the negative global NEO potentially indicates a drain of resources from the reporting economies.<sup>4</sup> This trend adversely impacts the credibility of the international accounts, its usefulness for policy making, and questions the capacity of the countries' compilation programs to accurately portray the complexities of cross-border transactions world-wide.

5. The global aggregates may not necessarily reveal the full depth of the problem, since errors and omissions offset or cancel each other out at both a country level (i.e., when both (real and financial) sides of a transaction are not captured) and at the global level, with positive and negative values netted in the process of calculating global NEO. In this regard, the 2014 data are illustrative: the global NEO were relatively low, but there was a large increase of positive errors and omissions in Advanced Economies that was offset by the plunge of negative errors and omissions in the Emerging and Developing Asia group followed by the Middle East group and the Sub-Saharan Africa group. On the positive side countries' revisions of their balance of payments statistics typically reduce the size of NEO, although the impact is relatively small, and does not change the overall picture.

6. None of the country groupings have an immunity toward inherent internal balance of payments asymmetries. Over the reference period, every economy experienced biased surges in NEO, which should nonetheless be put in perspective by the volume of cross-border flows of each economy (i.e., one may expect larger NEO from large and open economies than from smaller and less open ones).

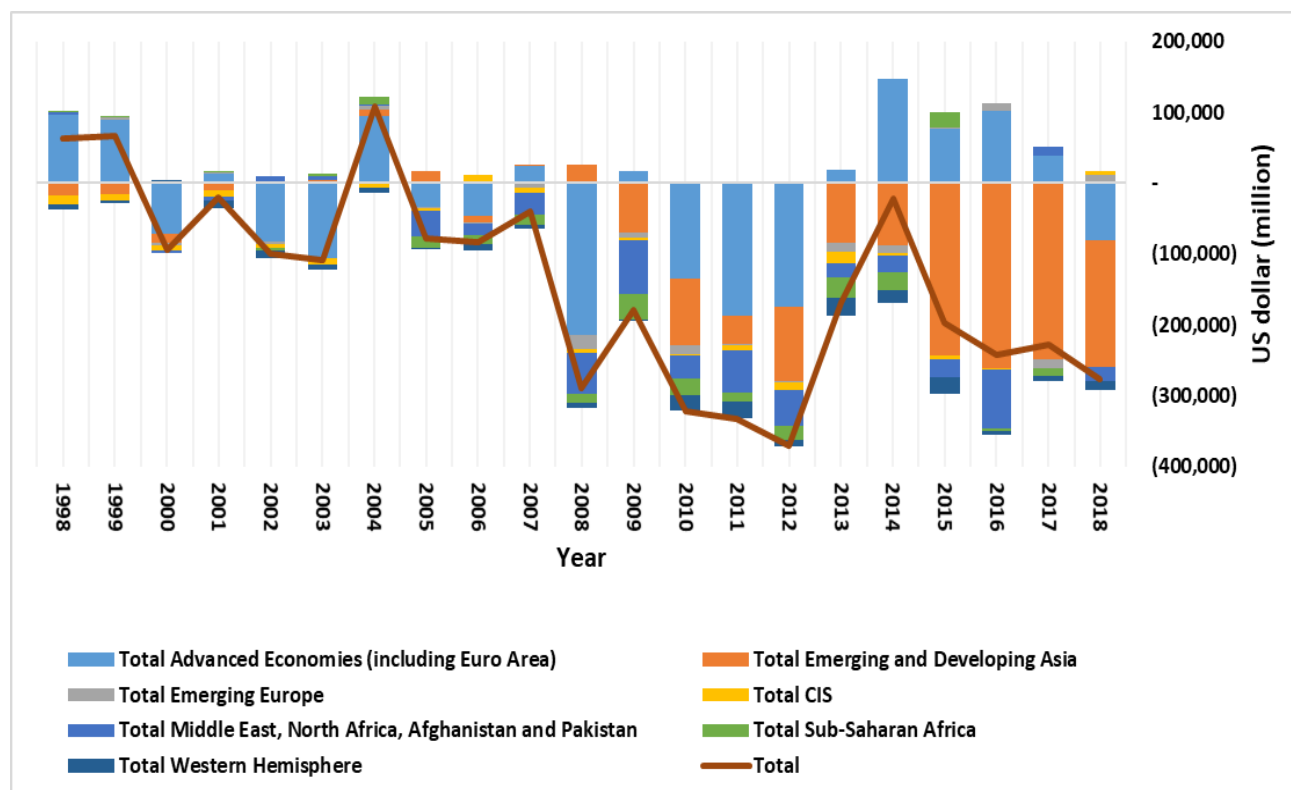
7. Over the past five years, Emerging and Developing Asia is by far the major contributor to the global errors and omissions followed by the Middle East and North Africa group and by the Western Hemisphere group. Some country groups (Western Hemisphere) show constant negative bias with several deeper negative plunges on the way; others sometimes are having periods of short and unremarkable, in terms of size, periods of reverse sign (Commonwealth of Independent States (CIS); Emerging and Developing Asia;

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<sup>4</sup> There were 187 economies reporting balance of payments statistics for dissemination in the IMF's *International Financial Statistics (IFS)* in 1998, and 198 reporting in 2018.

Middle East, North Africa, Afghanistan, and Pakistan; Sub-Saharan Africa (Attachment I)). The group of advanced economies, including Euro area historically present more swings between positive and negative signs, rather positive bias over the last years, and noticeably reduced size of errors and omissions, possibly reflecting the outcome of the recent efforts by the EU member states and other advanced economies on resolving asymmetries (Figure 1).

**Figure 1. Contribution of Country Groups to Global Net Errors and Omissions, 1998–2018**



8. Apart from the Advanced Economies, within the other groups there is a pronounced heterogeneity, where errors and omissions for selected countries may not be suggesting any systematic trends or a persistent sign over time, but rather aggregates are driven by a few distinctive countries within the group. At the country level, with an increase in volume of cross-border transactions, the level of NEO also increases, persistently signaling potential capital outflows, with NEO sometimes reaching double digit levels as a share to GDP (although the average remains at 2–3 percent to GDP).

9. Drawing from the experience of IMF technical assistance, internal balance of payments asymmetries are caused in most cases by the failure of countries' compilation systems to catch up with the consequences of globalization, fast developments in financial markets, etc. However, sometimes NEOs are the product of historically unaddressed under coverage by the compilation systems for otherwise ordinary balance of payments

transactions, such as purchase of residential properties by nonresident households, that potentially adversely affects travel and travel-related entries. It can also be argued that errors and omissions, which are seen solely as an indicator of deficiencies in the individual country's balance of payments compilation system, may in fact indicate capital outflows being globally uncovered—not least, those related to offshore financial centers—reflecting dataset shortcomings in capturing new global trends.

10. However, care must be applied in drawing conclusions from the above analysis, since it may be based on highly aggregated results (i.e., no statistical techniques were applied to neutralize the potential effect of outliers—sharp fluctuations in size and sign). However, the outcome of this analysis may encourage further discussion on the avenues for assessing the reasons behind the world-wide bias towards an increase in internal (national) balance of payments asymmetries.

11. Further research would be needed to determine how to approach the design of a comprehensive balance of payments data validation procedure that would enable statisticians to tackle possible contributors to NEO, both newly emerging (e.g., cross-borders relocations of multinational enterprises, digital trade and digital currencies, new financial market transactions and composite financial instruments, GVCs, etc.) and traditional (illicit trade transactions; trade mis-invoicing; price distortions for trade between related parties—e.g., transfer pricing—and recording of production sharing agreements; cross-border transactions of households including remittances and purchase of residential properties; inadequate coverage of trade originated in free economic zones or within single customs territory; timing differences in recording trade via commodity auctions; countries' inability to accurately attribute financial transactions of global business corporations—especially holding companies and special-purpose entities in offshore centers, etc.). Certain types of tools, that are mostly based on verifications with the detailed partners' data (so-called mirror statistics) and on consistency with other macroeconomic data sets are available for the purposes of validation of balance of payments internal asymmetries at the country level;<sup>5</sup> however, these tools are not combined into one comprehensive tool and are not used uniformly by the countries.

### **III. ANALYZING COUNTRIES' PRACTICES BASED ON SURVEY RESULTS**

12. In August 2019, STA conducted an exploratory survey on the balance of payments NEO targeted at Committee members. Twelve completed survey questionnaires were received. The main results of the survey are described in the following paragraphs.

13. First, the results show that there are no generally accepted levels of NEO or generally recognized indicators to assess NEO across economies. Because NEO is a residual from

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<sup>5</sup> See “Revisiting Global Asymmetries—Think Globally, Act Bilaterally” BOPCOM Paper 15/08, 2015

balance of payments compilation, both current and capital accounts, and financial account can contribute to NEO. According to the survey results, 50 percent of respondents think that it is difficult to determine the main contributing accounts. Thirty-three percent of respondents attribute NEOs to the financial account, and 17 percent to the current account. Within the current and capital accounts, approximately half of the respondents selected the goods account as the main contributor to NEOs. But the underlying reasons are diverse. Within the financial account, 50 percent of respondents attribute NEOs to direct investment and other investment. Issues such as complexity in recognizing multinational enterprises' (MNEs) transactions, under reporting and misreporting, and timing of recording, are listed as possible causes. The survey results show that other issues such as household's transactions in financial (foreign) assets, informal economy and digital trade, might contribute to NEOs. However, their importance may not be significant. The following are detailed results.

14. In practice, BOPCOM members use a variety of methods to assess NEOs, but the process does not necessarily mainly target NEO reduction. For instance, some economies use primarily historical data to assess whether the current level of NEOs is acceptable or not. Some economies are comfortable with their current level. Some economies indicate that the NEOs are final results from the balance of payments compilation and not a targeted number, because all accounts can contribute to NEO and for various reasons. In addition to magnitude, some economies point out that it is important to analyze NEOs over time for bias in terms of persistent positive or negative NEOs, which can offer clues about the relative strength and weaknesses across the accounts. While NEOs can be an indicator to explore accounts that need attention, a relatively low NEO does not necessarily mean a high level of accuracy in the accounts.

15. The survey also shows that approximately 72 percent of respondents do not think that quarterly NEOs are necessarily linked to a seasonality effect during the year. In practice, if high NEOs are detected, approximately 34 percent of respondents chose to systematically revise or adjust balance of payments estimates when validating data. Twenty-five percent choose to occasionally revise or adjust balance of payments estimates. Twenty-five percent chose to use the indicators only for analysis, which implies that they generally do not make adjustments or revisions. Sixteen percent indicated that they will make the adjustments. For those who compile both preliminary and revised balance of payments data, they either do not make a comparison to check whether the ratio has changed, or to find, if in general, the ratio on revised data will be lower.

16. Second, the results show that there are no generally agreed-upon indicators to analyze NEOs across economies. The survey started with two indicators. One indicator used is NEOs to the total value of trade in goods (sum of total exports and total imports), and the other is NEOs to total value of the current account transactions (sum of total credits and total debits) which shows the flows of goods, services, primary income, and secondary income between residents and nonresidents.

17. The survey results show that 60 percent of respondents rank the latter as a more appropriate indicator. However, for both indicators, there is no acceptable level. More specifically, approximately 64 percent of those who prefer the ratio of NEOs to total value of current account transactions, do not think that there is an acceptable level for this indicator. Twenty seven percent are agreeable to a level of NEOs of less than 3 percent of the indicator, and the rest considered it acceptable to have a level between 3 percent to 5 percent. Regarding the indicator NEO to total value of trade in goods, approximately 45 percent of respondents do not think that there is an acceptable level. Approximately 45 percent chose less than 3 percent and 10 percent chose between 3 percent to 5 percent.

18. In practice, economies use a variety of indicators, but those indicators are not necessarily used for the sole purpose of assessing the level of NEOs. These indicators include absolute value of NEO, absolute value of NEO to total volume of trade in goods, absolute value of NEO to total volume of balance of payments flows, absolute value of NEO to gross domestic product (GDP), absolute value of NEOs in terms of International Investment Position (IIP), and absolute value of NEOs to the average level of the previous 12 months NEOs, etc. Many of these indicators do not have a defined threshold. They are mainly for internal analysis only, and some of them are for a long-term assessment. **In short, it is up to the national compilers to determine whether a certain level of NEOs is acceptable or not.**

19. Third, the results show that 50 percent of respondents think that it is difficult to determine which accounts predominantly contribute to NEOs; 33 percent attribute NEOs to the financial account, while 17 percent attribute them to the current account. Some transactions in both the current and the financial accounts cannot be fully covered or well estimated. In addition, an incorrect interpretation of the methodology by national reporters can contribute to NEOs. Under-reporting and misreporting are also listed as reasons.

20. Within the current and capital accounts, approximately 50 percent of respondents consider the goods account as the main contributor to NEOs. The underlying reasons are diverse. For instance, many economies receive trade in goods data from customs and make adjustments to coordinate the Commodity Trade Statistics and Balance of Payments Statistics (to adjust merchandise trade to the change of economic ownership principle). Besides trade in goods, issues such as lack of certain data, and insufficient estimation in trade in services, primary income, secondary income, and capital accounts, will also contribute to NEOs. For instance, the complexity to measure specific transactions such as construction services and transport services when applying CIF/FOB adjustments to data on trade in goods usually generate differences between survey results and offsetting entries such as earnings declared as distributed and those effectively registered in the ITRS. This can also be a possible source of NEOs.

21. Within the financial account, 50 percent of respondents chose direct investment and other investment as main contributors to NEOs. For most respondents, foreign direct



investment is a significant component of balance of payments. Although data quality is generally good, under reporting and misreporting, complexity in capturing MNEs transactions, timing of recording the actual transactions, and lack of coverage of certain transactions and sectors, are listed as possible causes of NEO. In addition, the use of the transactor principle instead of the debtor principle for some transactions, as well as the mismatch between different data sources, are also considered as possible causes of NEOs. To detect the possible causes of NEOs in the financial account, economies use a variety of methods, ranging from monitoring the consistency between stocks and flows or between the current and the financial accounts to analyzing discrepancies by using CPIS and CDIS data.

22. Fourth, concerning issues such as households' external assets, informal economy and digital trade, the results show that they might be causes, but there is no evidence on whether the amounts involved may significantly contribute to NEO. For households' external assets, most respondents have used direct reporting, custodian reporting, the International Transactions Reporting System (ITRS), surveys, and estimates to collect the data. For the informal economy, approximately 70 percent of respondents do not think that underground and illegal activities can be significant causes of NEOs. Fifty percent of respondents think that digital trade could be a factor and that transactions related to this activity are not well captured in current data collection systems. Moreover, 70 percent of respondents attribute transactions related to Global Value Chains (GVC) as a possible contributor to NEOs. Limited information on the transfer of goods ownership and the price setting in GVC calculation and insufficient coverage may contribute to NEOs.

23. The survey results show that to reduce NEOs, the development of additional data sources would ensure more comprehensive coverage of cross-border activities. Another solution is to enhance mirror data validation by using international databases, and to enhance bilateral mirror data exchange.

#### **IV. SUMMARY OF FINDINGS**

24. With the global NEO at historically high levels and growing at a rapid pace, there is an increasing concern that this trend evidences the lack of capacity of countries' statistical programs to adequately measure cross-border transactions, with the potential to misguide policy making responses. Further research is needed on how to approach designing of a comprehensive balance of payments data validation procedure that would be able to tackle known and emerging triggers to NEO.

25. The survey results show that there is no generally acceptable level of NEO or generally recognized indicators to assess NEO across the economies surveyed, with half of the respondents indicating difficulties in singling out accounts contributing to the NEOs. The general view across economies is that development of data sources, enhancement of mirror data validation by using international databases, and bilateral mirror data exchange are the most effective methods in addressing internal balance of payments asymmetries.

*Questions for the Committee:*

- *Does the Committee agree with the view that there are no generally acceptable levels of NEO or generally recognized indicators to assess internal balance of payments asymmetries across economies?*
- *Does the Committee have additional recommendations on the methods to reduce NEO?*
- *Does the Committee consider it useful to undertake some follow up work to address bilateral asymmetries which could unfold underlying NEO? If yes, would some Committee members volunteer to undertake an exercise coordinated by the Committee's secretariat and present the results of this work at the next Committee meeting?*

**Figure A1. Trends in Internal Balance of Payments Asymmetries by Countries' Groupings**

