IMF Committee on Balance of Payments Statistics

BPM6/2008 SNA Update
Joint Globalization Task Team (GZTT)

Inter-secretariat Working Group on National Accounts

ENDORSED

G.1 Valuation of Imports and Exports of Goods in the International Standards (CIF to FOB Adjustment)

G.1 Valuation of Imports and Exports of Goods in the International Standards (CIF to FOB Adjustment)[1]

*The S*ystem of National Accounts 2008 *(*2008 SNA*) recommends recording of imports and exports of goods at free-on-board (FOB) values. This recommendation is consistent with the valuation principles of trade in goods in the* Balance of Payments and International Investment Position Manual, sixth edition *(*BPM6*). However, the FOB recording is not fully reconciled with the principle of output valuation at basic prices used for domestic transactions in the* 2008 SNA*. In later years, different authors suggested the use of transaction (invoice) values for recording of imports and exports. This guidance note (GN) puts forward three options to solve this apparent inconsistency. Option 1—change the recommended treatment of domestic transportation back to the recommendations in the 1968 SNA; Option 2—maintain the recommendation of the 2008 SNA to record imports and exports using an FOB-type valuation; and Option 3—change the SNA and BPM recommendation for the valuation of imports and exports to the observed transaction value (invoice value). While the Advisory Expert Group on National Accounts (AEG) and the IMF Committee on Balance of Payments Statistics (the Committee) consider Option 3 as conceptually sound, the status quo (Option 2) is recommended as part of the current BPM and SNA update, given that the limited results obtained during the second stage of the global consultation[2], did not support the practical adoption of Option 3 at this time. The change in the standards to value trade in goods at transaction prices is the conceptual goal though and the next round of BPM and SNA updates will adopt Option 3. This phased approach will enable assessing the quality of invoice values over time and ensure that economies start preparing for a transition to the use of invoice values which will be applicable as of the next update of the manuals.*

INTRODUCTION TO THE ISSUE

1. **The *System of National Accounts 2008* (*2008 SNA*) recommends recording of imports and exports of goods at free-on-board (FOB) values.** This recommendation is consistent with the valuation principles of trade in goods in the *Balance of Payments and International Investment Position Manual, sixth edition* (*BPM6*). However, the FOB recording is not fully reconciled with the principle of output valuation at basic prices used for domestic transactions in the *2008 SNA*, as noted in the conclusions of the 2013 Advisory Expert Group (AEG) on national accounts meeting[3]. In later years, different authors suggested the use of transaction (invoice) values[4] for the valuation of imports and exports in national accounts and balance of payments statistics.

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[1] The preparation of this GN was primarily undertaken by Ms. Margarida Martins (primary drafter), Ms. Padma Hurree-Gobin, and Ms. Jennifer Ribarsky (all, Globalization Task Team Secretariat (GZTT), Statistics Department, International Monetary Fund (IMF), who coordinated the contributions of the GZTT members, and the consultation with the Current Account Task Team (CATT). The work was undertaken under the supervision of Messrs. Michael Connolly (Chair of the Task Team), Paul Roberts (co-Chair until July 2020), and Branko Vitas (co-Chair from July 2020). The GN benefitted from comments by Mr. Carlos Sánchez-Muñoz and Ms. Silvia Matei (Balance of Payments Division) and Mr. Jim Tebrake (Real Sector Division), all from the IMF Statistics Department.

[2] https://www.imf.org/external/pubs/ft/bop/2021/pdf/37/21-02a.pdf, and https://unstats.un.org/unsd/nationalaccount/aeg/2021/M17/M17_AEG_BOPCOM_G1_Valuation_Imports_Exports_Survey_Results.pdf.

[3] Available at https://unstats.un.org/unsd/nationalaccount/aeg/2013/M8-5.PDF.

[4] Some papers use the concept of *invoice values* and other use *transaction values*. This guidance note uses them interchangeably. The two terms are meant to represent the same concept.

2. **The valuation of imports and exports on an FOB principle in the *2008 SNA* (Chapters 3 and 26)[5] seems to not be fully reconciled with the general conceptual principle of recording output at basic prices.** The FOB and basic price principles differ in the treatment of freight and insurance services between the exporting and importing countries. Under the FOB valuation principle, goods are valued excluding these services between the exporting and importing countries so that a uniform point of valuation is obtained. Under the basic price valuation principle, goods are valued at the observed transaction price receivable by the producer and, therefore, freight and insurance services are included or excluded depending on if these services are separately invoiced by the producer (Box 1 in Annex I illustrates the differences between basic price, producer's price and purchaser's price in the *2008 SNA*).

3. **The *2008 SNA* states that imports of goods are to be recorded in the supply and use tables (SUT) framework at basic prices and discusses how a cost, insurance, and freight (CIF) to FOB adjustment is needed, if FOB-type data detailed by product group are not available for imports (Chapters 14 and 28).** The link between the valuation and the estimate of transport margins is further discussed concerning the SUT framework (Chapter 14). In the case of international transport charges, the *2008 SNA* recognizes that, in most countries, the main data source for exports and imports of goods are customs declarations, which usually record imports using a CIF-type valuation. However, it is also noted that an increasing number of products circulate without direct customs supervision and recording, and in the absence of customs documentation, information must be obtained from surveys and other sources, which typically record the prices at which transactions are actually undertaken.

4. **The valuation of imports and exports on an FOB principle is equally recommended in *BPM6*.** While the underlying principle of *BPM6* (and the *2008 SNA*) is recording transactions at their market price at the point when the change in ownership occurs, the *BPM6* allows for partitioning and rerouting of transactions in the cases where transaction prices (as agreed between exporters and importers) include varying amounts of distribution costs, including none, some, or all of wholesaling, transport, insurance, and taxes (*BPM6* 10.31). The principle for valuation of general merchandise in *BPM6* as the market value of goods, at the point of uniform valuation, that is at the customs frontier of the economy from which the goods are first exported (FOB), is described in Chapter 10. The recommendations concerning the treatment of freight services and freight insurance services are also provided in Chapter 10 of *BPM6*.

5. **International Merchandise Trade Statistics (IMTS) are the main data source for imports and exports of goods.** While *BPM6* recommends an FOB-type valuation for both imports and exports, IMTS use a CIF-type valuation for imports. Therefore, to derive FOB values, it is necessary to exclude freight and insurance costs incurred between the customs frontier of the exporter and the customs frontier of the importer. *BPM6* recommends the CIF to FOB adjustment to be obtained at a detailed level, as the relation of FOB to CIF prices depends on the type of good, weight, scale, special needs, mode of transport, and distance traveled (Chapter 10). Additionally, it should be considered that CIF to FOB ratios change over time (e.g., due to fuel prices, competition and technology in transport industry, change in the proportion of types of goods, and changes in the source economy). While there are other conceptual differences that

[5] The relevant paragraphs of *2008 SNA*, *BPM6*, and *IMTS Concepts and Definitions 2010* (*IMTS 2010*) are identified and further discussed in the *Supporting Document, Section 3*. The *Supporting Document* is available at https://www.imf.org/-/media/Files/Data/Statistics/BPM6/GZTT/support-document-draft-guidance-note-g1.ashx .

require adjustments to IMTS data, concerning the coverage, time of recording, and classification of goods transactions, this note focuses on the valuation.

6. **Even though FOB-type valuation has been a long-established practice in the compilation of balance of payments and national accounts statistics at the aggregate level, recent discussions have highlighted the unresolved differences in guidance.**[6] The application of concepts such as the change of ownership, valuation, and time of recording in *BPM6* and the *2008 SNA* are tied to the use of customs documents as the underlying source data, given its widespread availability, although the concepts are not necessarily the same (as discussed above). Furthermore other factors triggered a discussion, including (i) an increasing use of non-customs data sources, particularly for economies in a customs union, such as the European Union (EU); (ii) practical challenges in bridging the conceptual differences when adjusting the IMTS data (following cross-border registration principles) to the BOP data (following the change in ownership principle); (iii) need for additional clarifications regarding some of the existing concepts, brought by globalization (such as merchanting) and transactions involving bundled goods and services; (iv) reducing trade asymmetries; and (v) continuous evolution of user needs, including increased demand for information on the CIF to FOB adjustment in national SUTs in order to create higher quality Inter-Country Input-Output (ICIO) Tables. A numerical example is presented in Box 2 in Annex I.

EXISTING MATERIAL[7]

7. The apparent inconsistency of the *2008 SNA* r**ecommendation to value output at basic prices and to record imports and exports at FOB values as recommended in *BPM6* was first addressed by Anne Harrison in a 2012 IMF Balance of Payments Committee (BOPCOM) paper.**[8] The author not only presented four suggested options towards resolving this inconsistency, but also underscored that the process of adjusting CIF to FOB valuation might need re-examination.

8. **Walters (2018)[9] and Hiemstra and de Haan (2017)[10] propose to value exports and imports of goods both in the balance of payments and national accounts based on transaction prices.** The authors argue that the constructed CIF-FOB values for exports and imports of goods are not consistent with the data collected for the international trade in transport services. The authors conclude that without information on the residency of the carrier, accurate imputations cannot be made and the CIF to FOB adjustment, diverging from the actual transaction value, will easily result in mistakes in the trade balance, leading to lower accuracy of the national accounts estimates, and contributing to cross-country asymmetries in balance of payments data. Additionally, with the increased use of containers, the FOB

[6] A discussion considering the balance of payments standpoint is incorporated in the *Supporting Document* (Sections 1.3 and 2.4), parts of which are reflected in this guidance note.

[7] Additional details on the existing materials are provided in the *Supporting Document*.

[8] Harrison, Anne, 2012, *FOB/CIF Issue in Merchandise Trade/Transport of Goods in BPM6 and 2008 SNA*, paper presented the 2012 BOPCOM (BOPCOM 12/30).

[9] Walters, 2018, *Measuring merchandise and international freight transportation costs in the Balance of Payments*, paper presented to the Organization of Economic Cooperation and Development (OECD) Working Party on International Trade in Goods and Trade in Services Statistics (WPTGS).

[10] Hiemstra and de Haan, 2017, *CIF/FOB recording of imports and exports in the national accounts and the balance of payments*, paper presented to the 2017 AEG.

valuation is considered outdated. Walters argues that the concepts currently used were designed at a time when goods circulated between countries under strict custom controls, and borders constituted a quasi-natural barrier where documents were presented, and goods reloaded to other mean of transport. Under these circumstances it was natural to separate transport costs into three parts: up to the border of the exporting country, between the borders of partner countries, and inside the importing country. However, currently, goods move with reduced customs controls and containers are widely used to move goods, in general loaded in the factory of the producer and send directly to the premises of the buyer, with a single cost given for the whole journey and paid completely by the producer or his customer.

9. **In early 2019, in a joint IMF-OECD initiative,[11] this discussion was raised through a survey.[12]** The survey questionnaire received responses from 66 countries on the module concerning the use of invoice values in the balance of payments. This exercise took a broader view on the use of invoice values and sought the respondents' views on both conceptual and practical bases, including in relation to transportation services. The results, presented to the 2019 BOPCOM, show that around 50 percent of respondents were unfavorable to the proposal of adopting invoice values, mainly due to practical considerations related to data availability. Twenty percent were favorable to the proposal, while 30 percent were unsure. However, looking at the same data source from a different perspective, the results from the 2016 decennial National Compilation and Dissemination Practices survey on IMTS,[13] conducted by the United Nations Statistical Division (UNSD) to the IMTS compiles community, revealed that 68 out of 102 economies (approximately 67 percent) maintained the invoice price as one of the valuations in basic merchandise trade statistics.

10. **The results of the 2017 United Nations Economic Commission for Europe (UNECE) *Workshop on Consistency between National Accounts and Balance of Payments Statistics*[14] show that different methods are used to estimate the CIF to FOB adjustment.** Although circumstances and customs documents are country specific, it would be useful to share information on questionnaires, methods for compiling the adjustments, software used between countries, and to foster international coordination to reduce asymmetries with partner countries that might rise from different methods in the compilation of the CIF to FOB adjustment.

11. **The CIF to FOB adjustment and the change to transaction values for the valuation of imports and exports have different impacts according to national circumstances.** As described in the BOPCOM 19/15 paper (further described in the *Supporting Document*), the joint IMF-OECD reconciliation exercise found different results in the pilot countries:

- Albania (for 2016–18, the annual average ratios of invoice values to FOB (BOP) value were estimated between 5.5 and 5.9 percent),

[11] Working Party on Trade in Goods and Services (WPTGS).

[12] The results are presented in the BOPCOM 19/15 paper: *Asymmetries Arising from the CIF/FOB Adjustments in Recording International Trade in BPM6 and 2008 SNA, Ongoing Investigations, Including the Use of Invoice Values*.

[13] Available at https://comtrade.un.org/survey/Reports/byQuestion.

[14] Available at https://www.unece.org/index.php?id=43930.

- Belgium (regarding intra-EU trade in 2015, the invoice value to CIF value was 0.04 and 0.16 percent of total trade, for imports and exports, respectively, while the CIF to FOB adjustment was -1.67 percent of total trade for imports),
- Indonesia (for 2014–18, the comparison of FOB exports from customs data and bank records of exports proceeds revealed a difference of 13 to 14 percent),
- Kosovo (for 2018, the comparison of customs-based data to data from a survey of main trade corporations revealed very small differences in general, but for some specific cases the customs data may not provide reliable estimates, including for freight and insurance), and
- Moldova (for the first quarter of 2019, the average ratios of invoice values to FOB (BOP) trade were estimated around 5 percent, although showing significant fluctuations between different groups of trade partners).
- Germany: Conducted an exercise over a huge data set from IMTS (47 million observations, 37 million alone for Extra trade in 2018). For Intra-EU trade, invoice values are in principle available, while for the Extra-EU, invoice values are available for imports only. The exercise showed very small CIF-invoice differences (1.4 percent on average) for the Extra-EU imports, and larger FOB-invoice differences (12.8 percentage) for Extra-EU exports.

12. **The 2017 Asian Development Bank *Compendium of Supply and Use Tables for Selected Economies in Asia and the Pacific* describes a diversity of practices regarding the compilation of the CIF to FOB adjustment.** The data sources used to estimate trade margins differ, with some economies referring that imports of goods are available using an FOB valuation (e.g., Bangladesh and Bhutan) and no CIF to FOB adjustment is needed, while others prefer the use of ratios to compile the CIF to FOB adjustments (e.g., 8 percent for Cambodia, 5 percent for PR China and India, or 27 percent for Mongolia). In the GZTT consultation, Norway reported a difference of around 2 percent for overall exports in 2018 between invoice value and CIF-FOB valuation, although with significant fluctuations for different products.

OPTIONS CONSIDERED

13. **To resolve the current conflict in the *2008 SNA* recommendations—internal SNA consistency (valuing domestic and international transactions in the same way) and valuation consistency between the *2008 SNA* and *BPM6*, different options were considered.** An issue paper on the topic, including the options proposed, was drafted for consultation among the Globalization Task Team (GZTT) members (the issue paper, as well as other relevant materials, are included in the *Supporting Document* to this guidance note).

14. **Option 1 proposed changing the recommended treatment of domestic transportation back to the recommendations in the *1968 SNA*.** In this option, transport services would always be treated as services, and never integrated with the value of the good. This option would have the advantage of valuing domestic and international transactions consistently, have a uniform point of valuation, and align the treatment of transport services in the SNA and BPM. However, this option would imply a change in the valuation concepts and methods currently adopted in the *2008 SNA*, with implications for the concepts of basic, producer, and purchaser prices. This would also imply changes in the treatment of transport margins in the adjustments needed to trade data in the SUT framework.

15. **Option 2 proposed maintaining the recommendation of the *2008 SNA* to record imports and exports using an FOB-type valuation.** This approach would maintain the consistency between the SNA and the BPM. However, this treatment would not fully reconcile with the *2008 SNA* recommendation to value output at basic prices and with the treatment of domestic transactions. Should Option 2 be considered, the existing materials point to the compilers' need of additional clarification concerning certain areas, including (i) availability of source data with different valuations to estimate imports and exports of goods in different countries; (ii) best practices to estimate the CIF to FOB adjustment depending on the available data sources; (iii) data sources to estimate freight and insurance costs; (iv) further guidance on the treatment of goods under merchanting[15] and goods sent abroad for processing.

16. **Option 3 proposed changing the SNA recommendation for the valuation of imports and exports to the observed transaction value.** This approach would have the advantage of enhancing the consistency within the SNA with the general valuation principle of recording output at basic prices. However, this would result in an inconsistency between the *2008 SNA* and the *BPM6*. This would also imply changes in the treatment of international transport margins (to bring in line with the recording of domestic transport margins) in the adjustments needed to trade data in the SUT framework.

17. **Option 3, if considered, requires a discussion with respect to the treatment of goods, transportation, and insurance services in the balance of payments statistics.[16]** In the context of Option 3 particularly, with a view to discuss and address the resulting inconsistency between the SNA and BPM, the CATT was consulted taking into account the following:

a) **Evaluate the possibility of adopting Option 3 from a conceptual perspective.** This approach should discuss the conceptual implications of changing the valuation of imports and exports to transaction values and also the associated treatment of international freight and insurance services from a balance of payments perspective. Currently the FOB valuation is considered at the customs frontier of the exporting economy, therefore (i) all freight costs up to the customs frontier are recorded as incurred by the exporter, and (ii) all freight costs beyond the customs frontier are recorded as incurred by the importer. When the arrangements for the payment of freight costs are different from FOB terms of delivery, *BPM6* recommends the rerouting of freight services, which may imply that transactions that are actually between two residents are treated as between residents and nonresidents, and vice versa.

b) **Evaluate the outcome if a no change in the current BPM standards concerning the valuation of imports and exports is favored.** If Option 3 is maintained for the SNA and a status quo is favored for the BPM, inconsistencies between the SNA and BPM could possibly increase**.** These inconsistencies could, nonetheless, be accepted provided that they are explained in the construction of supplementary tables, examining the required adjustments of imports and exports. This possibility should also be contemplated. Additional considerations on data sources should be made in case this

[15] Merchanting, in *BPM6*, is recorded at transaction values, as put forward in the clarification note released in 2019 https://www.imf.org/external/pubs/ft/bop/2019/pdf/Clarification0507.pdf. Additionally, the CATT Guidance Note C4, covers Merchanting and Factoryless Producers, Clarifying Negative Exports in Merchanting, and Merchanting of Services (https://www.imf.org/-/media/Files/Data/Statistics/BPM6/CATT/c4-merchanting-and-factoryless-producers-clarifying-negative-exports-in-merchanting-and-merchanting.ashx).

[16] Considering the *BPM6* update, the feedback of the CATT's consultation was included in the guidance note.

option is favored, including the feasibility of having international trade statistics data available with different valuations to be used in national accounts and balance of payments compilation.

RECOMMENDED APPROACH – CONCEPTUAL ASPECTS

18. **The written consultation within the GZTT has shown that most members favored Option 3 on a conceptual level** (*Supporting Document* provides additional information on the results of the GZTT consultation)**.** Most respondents (10 in 16 responses from national agencies) considered to amend the SNA guidelines and adopt the valuation of imports and exports on a true transaction or actually observed value basis.

19. **According to the feedback obtained from GZTT, the use of transaction values for the valuation of imports and exports was generally considered as conceptually sound.** The benefits of this approach included avoiding the effort of compiling the complex CIF to FOB adjustment (as illustrated in Box 1) many times based on assumptions, which may introduce measurement errors due to lacking source data. Additionally, the respondents consider that this approach would reduce asymmetries in data, as it would entail a unified assessment of transactions value between importers and exporters, and would facilitate the compilation of SUTs.

20. **The respondents acknowledged that this approach would require changes in both the SNA and the BPM to keep the consistency between the standards.** Other arguments include the continued evolution of the international trade agreements, with an increasing number of customs unions where customs declarations are no longer available; the increased complexity of supply chains, where transport and insurance arrangements are an important component; and the use of basic prices to value output in the SNA, including for transport and insurance that are not separately invoiced.

21. **Hiemstra and de Haan (2017) argues that the information obtained from IMTS to convert the invoice values to FOB values and to estimate the CIF to FOB adjustment is in general of low quality or unavailable,** and illustrate that the valuation principle of FOB (exports) and CIF (imports) may lead to inaccuracy of the trade balances and asymmetries, and is not consistent with the SNA principle of recording on ownership transfer basis. Additionally, the authors note that information on the residency of the carrier involved and on the terms of delivery is needed to estimate the corresponding adjustment in the trade of services and may not be readily available. The recording of goods valued at transaction values is expected to prevent inconsistencies in the recording of trade flows of goods and services.

22. **Walter (2018) lists the advantages of using transaction values. According to the author, these include:** (i) no estimates are needed, avoiding asymmetries caused by the current estimations; (ii) the data can be extracted directly from the company's accounts; (iii) the data requirements for compilers are reduced, since no additional information is needed for estimates; (iv) the compilation of freight transportation would be disconnected from IMTS, as weights and terms of delivery would no longer be needed; (v) the problem of geographical allocation of transport in cases where direct observations in the compiling country is not possible is avoidable; (vi) data on freight could be easily combined with merchandise data following the country of origin and/or the country of consignment concept; (vii) the invoice concept would better fit in with other components which are relevant in case of trade or international transportation, like processing and merchanting; (viii) the invoice approach would be in line with current recommendations of the *2008 SNA* regarding the valuation of goods and related transportation services inside the economic territory; (ix) the invoice approach would be in line with the

2008 SNA recommendations provided in Chapter 14 concerning the cases in which customs data are not available; (x) the invoice approach would foster consistency between the SNA and BPM; and (xi) the invoice approach would be an advantage to users, as it would reflect more closely the economic reality.

23. **Members of the GZTT, however, suggested further consultations regarding the practical considerations related to the option chosen.** The concerns expressed included (i) the need for new data sources, (ii) the difficulty in obtaining accurate transaction values even when the data sources are available, and (iii) the need for harmonizing with other statistical manuals (namely, with *IMTS 2010*).

24. **While the GZTT has only considered the valuation of goods, the 2019 joint IMF-OECD Stocktaking Questionnaire collected views on the use of transaction values for both goods and the related international transport costs.** The latter also asked countries' views on the potential implications from both a practical and conceptual perspective. As discussed above, about 50 percent of respondents were unfavorable to the proposal to use transaction values as the valuation principle for both goods and transportation services, and about 30 percent remain uncertain.

25. **Responses to the IMF-OECD Stocktaking Questionnaire listed potential advantages and disadvantages of the use of invoice values as a principle of recording trade transactions in the balance of payments.** The advantages put forward by the respondents include the use of a valuation closer to true market values, the elimination of the need to estimate the CIF to FOB adjustment (this of course is predicated on transaction values being available), and a potential reduction of cross-country asymmetries. The disadvantages referred to include the lack of access to invoice values or to corporations' records (or to the detailed data in these sources), the need of additional data to estimate freight transport and insurance services (i.e., direct surveys might be needed to collect data to estimate these activities if invoice values were used), the difficulties in the classification of goods and services and in establishing the residence of the corporations, and the increase in the work or respondent burden. Additionally, many respondents argue that other factors may equally contribute to cross-country asymmetries (e.g., recording imports by country of consignment rather than by country of origin, merchandise not crossing borders, shuttle trade, or illegal activities).

26. **With the caveat that the GZTT and the IMF-OECD Stocktaking Questionnaire did not address the issue from the same perspective, there is an apparent divergence in opinion related to adopting transaction values for imports and exports valuation.** For the recommendations included in Section 6 of this guidance note, the GZTT considered the feedback received from the consultations with the CATT, concerning the recommended approach from balance of payments conceptual perspective, and of any discussion, conceptually, to sort out any resulting inconsistency between the SNA and BPM. Additional feedback from the national accounts and balance of payments communities was also considered, as a result of the comments from the 2020 UNECE Webinar of the Group of Experts on National Accounts, the AEG consultation, and the BOPCOM discussion.[17]

27. **From a conceptual viewpoint, the adoption of invoice values for the valuation of imports and exports of goods has implications for the compilation of both national accounts and balance of payments statistics.** In the case of the national accounts, the use of invoice values for the valuation

[17] The 2020 UNECE Webinar of the Group of Experts on National Accounts took place on September 16, 2020. A summary of the AEG consultation and the BOPCOM discussion is included in Annex II.

of exports and imports is in general consistent with the principles concerning the time of recording and valuation of production recommended in the *2008 SNA*. However, changes in the current guidance would be required mainly in the estimation of SUTs. In the case of balance of payments statistics, the use of transaction values would have consequences because there would no longer be a partitioning and rerouting of the market price valuation of the good. The implications include:

(i) **Demarcation between goods and services:** mixed composition of goods (i.e., merchandise) and services (i.e., freight and insurance) in the values of imports and exports due to the lack of a uniform price valuation, redefining the boundary between goods and services.[18] There is an increasing blurring of the boundary between goods and services so a key consideration for users of balance of payments data is if the separation in the value of a product into the part of "pure" goods from services is still analytically useful.

(ii) **A changeable valuation point would be introduced.** Instead of a uniform valuation point, the *terms of delivery* of each transaction would define what is included in each transaction.

(iii) **Change in treatment of international freight and insurance services:** the current treatment is a consequence of FOB uniform valuation (i) all freight costs up to the customs frontier are recorded as incurred by the exporter, and (ii) all freight costs beyond the customs frontier are recorded as incurred by the importer. A move to transaction value implies a change to this concept implying new estimation practices for international transportation and insurance services which may point to the need for new data sources or adjustments.

RECOMMENDED APPROACH – PRACTICAL ASPECTS

28. **The GZTT consultation revealed that in general transaction values for IMTS are available from custom's documents in the economies of the respondents (17 in a total of 22 responses from national agencies); however access to data might be challenging to the agency responsible for compiling national accounts or balance of payments statistics.** Thirteen respondents (out of 22 responses) mentioned that the National Statistics Office, Central Bank, or other compiling agency have access to the transaction (invoice) values in customs declarations. In some cases, the access is limited to aggregates to be used in national accounts and balance of payments compilation or the access within the agency is restricted (additional information is included in the *Supporting Document*).

29. **The GZTT consultation referred that a study was not conducted on the difference between invoice value and CIF or FOB valuation (15 in a total of 22 responses from national agencies).** This was mostly due to the lack of access to detailed data, other priorities for improvements in the national accounts' compilation, or the lack of available resources. Only seven respondents have reported that their

[18] *BPM6* does not provide an exact conceptual definition of the content of the "goods" (i.e., how much physical products they should include and how much services which facilitate their exchange). *BPM6* notes that the "distinction between goods and services and other entries is determined by the nature of economic value supplied". The *2008 SNA* paragraph 6.15 provides a definition of goods as "physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets." Furthermore, the *2008 SNA* paragraph 6.16 notes that it is seldom if ever necessary to make a clear distinction between goods and services but in making the link to other data sets it is often necessary to understand which products have been treated as goods and which as services.

agency has conducted a study on the difference between invoice value and CIF or FOB valuation but only one reported on the size of the difference.

30. **The results of the 2019 joint IMF-OECD Stocktaking Questionnaire show that most respondents considered that it is not practically feasible to develop balance of payments statistics for trade in goods and freight transactions using invoice values.** This solution was not deemed feasible in the medium term due to several reasons, of which (i) the lack of complete and accurate available data; (ii) the impossibility of using data from corporations' records; (iii) the need for collaboration between the Central Bank, National Statistics Office, and Customs Authority to include this requirement in customs documents or to provide access to balance of payments compilers; or (iv) the lack of detailed data on transport services.

31. **In the 2016 National Compilation and Dissemination Practices survey on IMTS, conducted by the UNSD, most of the respondent economies (68 in 102 responses) report that the invoice price is maintained as one of the valuations in basic merchandise trade statistics.** Some Member States of the EU mentioned that this was only maintained for intra-EU trade, and other countries noted that these data were not disseminated.

32. **From a practical perspective, customs declarations are the main source of trade data in most countries, and IMTS, although adjustments are needed for the concept of economic ownership, are the main data source used for estimating imports and exports of goods in the balance of payments and national accounts.** The use of IMTS data in SUT compilation requires adjustments to reconcile the different valuation used for total imports of goods, and for the import data disaggregated by products. In general, total data for imports of goods are available using an FOB-type valuation from balance of payments statistics, but data by product categories with detailed disaggregation to be used in SUT compilation are only available using CIF-type valuation, and a CIF to FOB adjustment is needed. The 2018 United Nations *Handbook on Supply, Use and Input-Output Tables with Extensions and Applications*, notes that the exposition of the CIF to FOB adjustment in the *2008 SNA* could be clearer in describing this adjustment, and explains two types of adjustments that are compiled in practice: data adjustments prior to entering this data source in the SUT system, and the CIF to FOB adjustment. Therefore, a key point is that if the source data is not valued at invoice value—usually based on customs data at the product level—then an adjustment would still be needed to bring the valuation to the basic price concept if adopted. The existing materials show that diverse methods are used across countries to estimate the CIF to FOB adjustment, and clearer guidelines according to the available data, and sharing of national practices would be useful.

33. **To ensure full coverage of IMTS, several non-customs data sources are used to complement customs-based data.** These are used especially in the case of economies with more advanced statistical systems, or in customs unions that have abolished customs controls and customs records are not available. Alternative data sources include administrative records available from taxation (VAT or sales tax) and surveys of exporters and importers. The inclusion in the SNA of further discussion on alternative data sources and the valuation methods used in those would be useful for compilers.

34. **Additional practical considerations should be taken into account when updating the recommendations of the international statistical standards.** If the updated standards recommend the use of invoice values, for the valuation of imports and exports of goods instead of FOB, in many countries this will require that data on the invoice price be a mandatory field in the data shared by Customs with

balance of payments compilers. This might affect the design of Customs' and balance of payments' databases to accommodate the new required data formats, implying the use of substantial resources, including IT. This would be more cost efficient if planned in coordination with the next revision of the Harmonized Commodity Description and Coding Systems (HS)[19], likely to take place by 2022, according to the five-year interval previously adopted for revisions. Additional details on the practical implications of the use of invoice values in the compilation of balance of payments statistics are further developed in Box 3 in Annex I.

35. **The GZTT conducted a global consultation to assess the practical feasibility of recording imports and exports of goods at their observed transaction value.[20]** The results of this consultation were considered in the recommendation made by GZTT in Section 6 of this guidance note.

OUTCOMES OF THE DISCUSSIONS AT JOINT COMMITTEE AND AEG MEETING

36. The Committee and the AEG recommended the following.[21]

- Retain Option 2 - the *2008 SNA/BPM6* methodological guidance to record imports and exports of goods using an FOB-type valuation in the current update.
- Underscore clearly in the revised text of the new manuals that Option 3—valuing exports and imports of goods at invoice values— (valuing trade in goods at transaction prices) will be the standard in the next round of BPM and SNA updates.
- Indicate that economies should be encouraged to take steps and start collecting the information as well as undertake the testing before the next update.
- Explore further the collection of invoice values as part of the IMTS. This will enable assessing the quality of invoice values over time and ensuring that economies switch over with the next change in standards.

REJECTED ALTERNATIVE

37. Option 1— changing the recommended treatment of domestic transportation back to the recommendations in the *1968 SNA*. The GZTT did not see any strong reason to consider discussing Option 1.

[19] Additional information available at https://unstats.un.org/unsd/tradekb/Knowledgebase/50018/Harmonized-Commodity-Description-and-Coding-Systems-HS.

[20] The results of the global consultation are available here https://www.imf.org/external/pubs/ft/bop/2021/pdf/37/21-02a.pdf, and https://unstats.un.org/unsd/nationalaccount/aeg/2021/M17/M17_AEG_BOPCOM_G1_Valuation_Imports_Exports_Survey_Results.pdf

[21] A summary of the AEG/Committee discussion on this GN at the October 2021 meeting is available here.

Annex I. Additional Information and examples

Box 1. Example of the Impact on Prices of Transport Charges

Considering the situation where unit A sells a product to unit B, different prices result from the alternative means of moving the product from A to B.

If B collects the product from A, the price charged is 200. The cost of transport is 10. Both A and B can transfer the product from A to B or may use a third party, C, to make the transfer. Ten per cent tax (not Value Added Tax, VAT) is payable on both the cost of the product and the transport costs.

Delivery method	Basic price	Tax	Producer's price	Transport margin +tax on transport	Purchaser's price	Comment
A charges B an all-inclusive price and uses own delivery fleet	210	21	231		231	Transport is an ancilliary activity of A
A charges B for delivery but uses own delivery fleet	200	20	220	11	231	Transport is an secondary activity of A
A charges B an all-inclusive price but uses C for delivery	210	21	231		231	C's production is intermediate consumption of A
A charges B for delivery but uses C to deliver	200	20	220	11	231	C's production is intermediate consumption of A
B collects the product from A using own delivery fleet	200	20	220		220	Transport is an ancilliary activity of B
B uses C to collect the product from A and deliver to B	200 10	20 1	220 11		220 11	B buys 2 products; one from A for 220 and one from C for 11

Source: *2008 SNA*, Table 14.3 and paragraphs 14.55–14.60.

Box 2. Numerical Example to Illustrate the CIF to FOB Adjustment

The example below illustrates the complexity of the process used to record the CIF to FOB adjustment in the SUTs. The example is adapted from Hiemstra, L. and de Haan, M., 2017, *CIF-FOB recording of imports and exports in the national accounts and balance of payments* (paper presented to the 2017 AEG), and examines examples given in Box 10.3 of *BPM6*. The example is computed from the viewpoint of the importing country (Country B).

A piece of equipment costs 10,000 units at the factory at which it was produced in Country A. It costs 200 to transport it to the customs frontier of Country A, 300 to transport it from the customs frontier of Country A to the customs frontier of Country B, where a customs duty of 50 is levied, and it costs 100 to deliver it from the customs frontier of Country B to the customer.

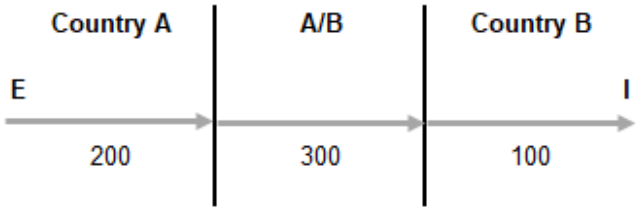
Under all contractual arrangements between the parties, the FOB value is 10,200 and the CIF value is 10,500. However, how the services are recorded depends on the arrangements for paying the transport costs and the residence of the transport provider.

For simplicity, insurance of the equipment during transport is not covered in the example, and all transportation from the premises of the seller (in Country A) to the buyer (in Country B) is done by one resident (from the perspective of Country B), or non-resident, carrier.

Table 1

Available data:	
Value of goods	10,000
FOB value of goods	10,200
CIF value of goods	10,500
Transport cost in Country A	200
Transport cost area A/B	300
Transport cost in Country B	100

Situation:



The example is based on the practical experience of Statistics Netherlands (CBS) in recording the import of goods (available from the data source with a CIF valuation) in the supply table. In this example, the information reproduced in Table 1 is obtained from statistical sources as (i) the merchandise trade in goods statistics (IMTS) report an import value of 10,500 using a CIF valuation; and (ii) the results obtained from the international trade in services statistics (ITS), that record the transport services, will depend on the nationality of the carrier.

Example 1

This example considers that the trading partners contract on an FOB basis (i.e., the invoice price is 10,200). With FOB delivery terms, the exporter is responsible for costs up to the frontier of Country A (200) and the importer is responsible for subsequent costs (300+100). In this case, no rerouting needed, according to *BPM6*. However, the authors argue that additional records are needed to align the trade in services data.

Carrier resident in Country B

To record this transaction in the supply table, detailed data from the IMTS are available using a CIF valuation, with the value of 10,500. However, the FOB contract implies the split of transport services between the exporter (transport in Country A, 200) and importer (all other transport, 400). Additionally, the carrier is expected to report an export of 200 (transport costs in Country A payable by the exporter), that would be recorded in the ITS.

Table 2

Imports		**What is initially recorded?**		**Suggested treatment (transaction values)**	
Imports		Imports		Imports	
Goods	10,000	Goods (CIF)	10,500	Goods (FOB)	10,200
Services	-	Services	-	Services	-
		Exports		Exports	
		Goods	-	Goods	-
		Services	200	Services	200
Balance of imports	*-10,000*	*Trade Balance*	*-10,300*	*Trade Balance*	*-10,000*

In this case, the trade balance based on a CIF recording of goods will be understated by -300. This discrepancy results from the transport costs from Country A to Country B which should not be part of the imported value. These transport services are included in the CIF value of the imports, but are delivered by a resident carrier and are therefore a domestic transaction. To obtain a consistent balance of trade, a CIF

recording requires an adjustment of the services import of -300. If the actual transaction (FOB) price was used, the source data would have provided a consistent picture.

Carrier not resident in Country B

As 200 of transport costs are already included in the FOB price of goods, in this case the importer will report an additional import of transport services of 400 which corresponds to the transport costs in bridging the borders of Countries A and B (300) and transportation in Country B (100). This value will likely be recorded in ITS.

Initially, the CIF recording in the supply table causes the balance of trade to be understated by -300, as the importer reports an import of services of 400, but the transport costs from Country A to B borders are already included in the CIF value of the goods. A CIF recording would require a service trade import adjustment of -300. The actual FOB transaction value would guarantee a consistent recording.

Table 3

Imports		**What is initially recorded?**		**Suggested treatment (transaction values)**	
Imports		Imports		Imports	
Goods	10,000	Goods (CIF)	10,500	Goods (FOB)	10,200
Services	600	Services	400	Services	400
		Exports		Exports	
		Goods	-	Goods	-
		Services	-	Services	-
Balance of imports	*-10,600*	*Trade Balance*	*-10,900*	*Trade Balance*	*-10,600*

According to the authors, Example 1 shows that the required adjustments in the trade of services cannot be made without information on the residency of the carrier (and other trade service providers) involved, and this information may not be readily available. Additionally, the recording of goods at actually observed transaction values would be expected to be consistent with the recording of the corresponding trade services flows. Trading parties will either report a transaction in goods (which may to some extent include services components) or separately a transaction in trade services.

Example 2

This example considers that the trading partners contract on an “ex works” (EXW) basis (i.e., the invoice price is 10,000 and the importer in Country B pays separately for all transport from the seller’s premises to its own). IMTS of Country B show a CIF recording of 10,500, to be included in the supply table, and the recording of the transport services depend on the nationality of the carrier.

Carrier resident in Country B

In this case no import of services is being recorded, as the transport service is considered a domestic transaction, and the CIF recording of goods leads to an understated trade balance of -500. An adjustment of -500 in the import flow of transport services is needed to counterbalance this inconsistency. The recording based on the transaction value (EXW) is limited to the trade in goods only. The trade balance will not include the recording of services which is according to the actual transaction between the trading parties.

Table 4

Imports		What is initially recorded?		Suggested treatment (transaction values)	
Imports		Imports		Imports	
Goods	10,000	Goods (CIF)	10,500	Goods (EXW)	10,000
Services	-	Services	-	Services	-
		Exports		Exports	
		Goods	-	Goods	-
		Services	-	Services	-
Balance of imports	*-10,000*	*Trade Balance*	*-10,500*	*Trade Balance*	*-10,000*

Carrier not resident in Country B

The EXW contract leads to a separate recording of all transport services of 600, likely captured in ITS. As a result, the CIF recording of imports of goods in the supply table leads to an overstated import of 500, corresponding to the transport services included in the CIF value. The CIF recording requires a counterbalancing adjustment of the same amount (-500) in the import of services.

Table 5

Imports		What is initially recorded?		Suggested treatment (transaction values)	
Imports		Imports		Imports	
Goods	10,000	Goods (CIF)	10,500	Goods (EXW)	10,000
Services	600	Services	600	Services	600
		Exports		Exports	
		Goods	-	Goods	-
		Services	-	Services	-
Balance of imports	*-10,600*	*Trade Balance*	*-11,100*	*Trade Balance*	*-10,600*

According to the author, Example 2 confirms the conclusions made under Example 1.

Box 3. Practical Implications of the Use of Transaction Values for the Valuation of Imports and Exports of Goods in the Compilation of Balance of Payments Statistics[22]

The change in the valuation principle of imports and exports of goods from a uniform valuation using FOB values to transaction values would have implications for the compiling agencies, as well as for the respondents, and data users. This Box includes a discussion of the main issues that would need to be addressed.

Compiling Agencies

[22] The box has been drafted with input by Ms. Silvia Matei, Balance of Payments Division, Statistics Department IMF.

- **Need to assess the data collection system for merchandise trade with potential resource implications.** In the case of unavailability of invoice data from customs records, a push to include such values on customs records may be needed. However, questions related to invoice values may be considered to be more sensitive by the respondents and access may not be provided. If invoice data are unavailable, notably in some large trading countries, using company records from surveys may introduce asymmetric recordings of imports/exports (company versus customs records). Besides the costs of data collection, other factors affecting the data quality should be considered, including (i) the disadvantages of using survey data (e.g., extrapolation of results, non-responses, or delays in reporting affecting the timeliness of production), and (ii) the potential increase in cross-country asymmetries from the use of different data sources.
- **Residence of freight/insurance providers may not be known from customs declarations.** New surveys of manufacturers and providers of transport and insurance services may need to be introduced, or existing ones extended to collect the invoice values for merchandise and data on freight and insurance costs. Given the complexity of global arrangements in many economies, their data collection for freight and insurance services may be less accurate, by increasing the risk of overvaluation when a large number of intermediaries is involved, or of undervaluation attributing the service cost component to goods.
- **Need for enhanced data validation and quality controls.** The values recorded by the corporation's invoices and those included in the customs records may diverge for various reasons, including underestimation in customs records to avoid taxes, transfer prices, or incomplete information. In addition, in many cases, no quality control has been performed for the invoice values included in customs records. The unavailability of a standard invoice format might present an additional challenge for data collection.
- **Need to update the IT system concerning the IMTS and balance of payments databases**. This may be a less (in case invoice values are available from customs data) or more (in case new data sources are needed) resource demanding task. In general, such changes would take time to implement and the agencies may not have the capacity to modernize their systems to build adequate alternative data sources for foreign trade statistics.
- **Need of new legal and regulatory requirements to support data collection.** This can be especially relevant concerning the collection of data of non-financial corporations by Central Banks. In custom unions, additional legal acts governing the external trade of goods should be updated. In the case of customs administrations, the move to invoice values may result in additional data requests, including the breakup of freight, terms of trade, and information on the carrier of goods. This could lead to the need of a thorough assessment of services, procedures, and resources to accommodate the new requests from the compiling agencies.
- **Need of improved organizational and institutional arrangements.** Enhanced interagency cooperation will allow effective data collection, validation and sharing, reduce costs, and avoid duplication of efforts, contributing to the quality, harmonization, and consistency of the several statistical products.

Respondents

- **Increase of the respondent burden, in case of unavailability of invoice data from customs or other administrative data sources.** Considering the large number of monthly transactions, the data collection through surveys might be a resource consuming task for respondents.

Data Users

- **Costs of adapting to new data.** From a practical perspective, retrospective estimations are unlikely, and the use of a new valuation principle will lead to structural breaks in time series. Additionally, compiling agencies will have to communicate the changes to the data users to ensure the confidence in the new trade data.

Annex II. Summary of AEG and BOPCOM discussions

1. Summary of discussion of the AEG meeting (October 5-9, 2020) [23]

The AEG expressed a preference for Option 3 (recording of exports and imports of goods at their observed transaction value), as it is conceptually more aligned with the SNA recommendation to measure output at basic prices, and it could also facilitate the compilation of supply and use tables. However, the AEG placed a high value on consistency between SNA and BPM and expressed the preference for a solution that maintains this consistency moving forward. While Option 2 was favored by some members there was little to no support for Option 1.

The AEG noted the potential practical difficulties in obtaining external trade data at transaction values from customs data; the need to conduct supplementary surveys to obtain timely freight and insurance charges data to adjust external trade data to their transaction values; and statistical issues such as breaks in time series data on international merchandise trade. Additionally, AEG Members noted that Option 3 may not solve the existing asymmetries, if the current CIF-FOB adjustments are replaced with other type of adjustments.

The AEG requested that experimentation and testing are conducted to assess the extent of the difficulties in obtaining external trade data at observed transaction values from customs records, and the impact of the proposed changes, taking into consideration the different levels of statistical capacity and resources in countries. It was also noted that the Task Team should investigate whether or not Option 3 only implies inconsistency between NA and BOP at the product level but maintains consistency at the aggregate level (total imports and exports of goods and services).

While there is a slight preference for Option 3, this change should only be adopted if it is clear from the consultation and testing process that it can be implemented in practice and the benefits outweigh the disruption (and cost) to the statistical system. AEG Members, especially from countries with less developed statistical systems, expressed concerns with the resources needed to implement this change, in case it is considered feasible.

2. Summary of discussion of the Committee meeting (OCTOBER 26–29, 2020) [24]

The discussion centered around Options 2 and 3, since 1 was a step backwards. While most members didn't challenge the conceptual validity of Option 3 (invoice values), its feasibility was put into question by many Committee members on the grounds of lack of access to the required data (although it was also recognized that the current practices required often significant use of such data sources or assumptions to construct supply-use tables and indeed global input-output tables). All members agreed that further investigation is needed to assess the availability of and compilers' access to detailed data on invoice prices from customs; the impact of varying degrees of access to bilateral asymmetries; as well as how to

[23] This section refers to the discussion on item 4.2 (Valuation of imports and exports (CIF-FOB adjustment) at the AEG meeting, October 5–9, 2020 (https://unstats.un.org/unsd/nationalaccount/aeg/2020/M14.asp).

[24] This section is taken from the *Summary of Discussions* of the Committee meeting, October 26–29, 2020 (https://www.imf.org/external/pubs/ft/bop/2020/pdf/20-13.pdf), and refers to the discussion on the BOPCOM paper 20/06 (*C.11 Valuation of Imports and Exports of Goods in the International Standards (CIF to FOB Adjustment*).

collect additional data for freight and insurance services. The World Customs Organization (WCO)[25] may be consulted on whether existing customs regulations impose mandatory recording of invoice prices in customs declarations and whether compilers can get access to the data. The assessment should also focus on analyzing whether the differences between both options prove important enough to justify the huge investment required to modify data collection systems.

The Committee agreed that an overarching objective of the final decision on the valuation of imports and exports should be keeping the consistency between the SNA and the BPM. Before deciding on whether a change is warranted, the Committee supported the plans of the GZTT to test whether most countries can get access to invoice values from customs and assess the differences with the FOB valuation. The test should comprise a large enough sample of countries representing different circumstances concerning access to the required data.

[25] See Annex III.

Annex III. Discussion with the World Customs Organization (WCO)

The GZTT and CATT Secretariat discussed with the WCO the availability of invoice values on customs documents in January 2021. Below is a summary of the discussion.

Is the field on invoice values generally present in customs administrations' collection forms/systems across the world?

The WCO stated that the invoice value should be available as normally Customs Administrations request invoice value as a mandatory data element in Customs declarations. The Customs value is needed to calculate Customs duties and other taxes and it should be based on transaction value according to World Trade Organization (WTO) valuation agreement. Transaction value should be the actual value of sales which normally is shown on invoices. Thus, Customs should request invoice value together with insurance and transportation fees in case of CIF.

It should be noted that, since the source of invoice value data is invoice, which is a commercial document, the calculation base of such value is varied based on their types of contracts. Also, some countries use FOB and some use CIF as Customs value, thus invoice value or contract itself could be affected by such Customs regulations to facilitate the customs procedures to avoid re-calculation of Customs value. Furthermore, invoice value could be zero (e.g., if goods are samples), or discounted and in many cases that Customs value should be adjusted based on Valuation agreement.

If available in the collection forms or systems, to what extent is this field mandatory?

The UNCTAD Automated System for Customs Data (ASYCUDA) is an integrated customs management system for international trade and transport operations in a modern automated environment. The WCO understands that the customs declaration in ASYCUDA uses the Single Administrative Document (SAD), under which Box 22 requires information on the invoice value for the declaration in the specified currency.

Is there any information on the institutional arrangements with national statistics offices, central banks, or other statistical agencies, to share the collected data on invoice values?

There are customs administrations who have a function to produce export and import statistics and those who provide the raw trade data to statistics office to do so. In the latter case, they definitely share the raw data.

Normally trade data contains data which are subject to privacy law, so it is necessary to have the legal basis to exchange such data