



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

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BOPCOM—19/17  
For discussion

## Challenges in Recording Intellectual Property Products



## **Challenges in Recording Intellectual Property Products**

*Recording of transactions associated with intellectual property products (IPPs) is a highly relevant topic for both external sector statistics (ESS) and other fields of macroeconomic statistics. Globalization processes in the world economy, rapid development of high-end technological production, appearance of new forms of intellectual property, rising importance of IPPs in production process, new economic phenomena (e.g., Factoryless Goods Production) and development of digital trade result in substantial growth in transactions associated with IPPs. The paper gives a brief overview of the existing guidance for covering IPPs-related transactions in ESS, points out the main challenges compilers face in covering data on IPPs, and underscores possible directions for improvement in this field of macroeconomic statistics. The views of the Committee are being sought on the creation of a BOPCOM task force to examine the need for developing broader guidance for collection and dissemination of statistics on cross-border transactions in IPPs. The Task Force would bring together a few country representatives as well as international institutions with experience in the field, and present proposals for a way forward to the Committee at its 2020 meeting.*

### **I. INTRODUCTION**

1. **The treatment of IPPs in macroeconomic statistics is guided by the *System of National Accounts, 2008 (2008 SNA)*, sixth edition of *Balance of Payments and International Investment Position Manual (BPM6)* and *Manual on Statistics of International Trade in Services, 2010 (MSITS 2010)*.** According to paragraph 10.98 of the 2008 SNA, IPPs result from research, development, investigation or innovation leading to knowledge that the developers can market or use to their own benefit in production because use of the knowledge is restricted by means of legal or other protection. The key distinct characteristics that make IPPs different from other goods and services are the following:

- they are typically unique but may be copied and reproduced;
- they are produced by initial owner at his/her own expense;
- they are not subject to wear like conventional assets;
- they can be readily reproduced with minimal production costs.

2. **Five main categories of IPPs are identified in 2008 SNA:** (i) outcomes of research and development; (ii) mineral exploration and evaluation of deposits; (iii) computer databases and software; (iv) entertainment, literary and artistic originals; and (v) other IPPs. Accounting for IPP-related transactions in ESS poses significant challenges due to the extremely diverse nature of IPP categories together with the constant development of new forms of IPPs. The paper discusses main challenges in accounting the IPP-related transactions with focus at classification, data collection, valuation, and recording on change of ownership basis. It also proposes way forward for improving the coverage and methodological soundness in accounting for IPPs in ESS.

## II. CURRENT GUIDANCE ON THE TREATMENT OF IPPS IN ESS

3. **With the exception of mineral exploration and evaluation of mineral reserves, IPPs are subject to active international trade.** Most extensively traded are copies of IPPs; however, trade in originals such as outcomes of research and development (R&D) is also important. Given the great importance of cross-border transactions in IPPs, ensuring their accurate measurement is essential for statistical data quality improvement.
4. **Key balance of payments components for reflecting transactions in IPPs are:**
- (i) *goods* for purchases of IPPs on physical media with the right to perpetual use (e.g., computer software with a license for perpetual use);
  - (ii) four categories of *services: research and development services, computer services, audiovisual and related products, and charges for the use of intellectual property n.i.e.*;
  - (iii) *acquisition/disposal of nonproduced nonfinancial assets* in capital account for purchases/sales of franchises, trademarks, and works of art. To this category referred are cases when economic ownership of all respective rights for IPPs is transferred. The seller does not possess any more rights or obligations associated with the IPP in question. It is worth to mention that this category cover also other types of transactions that are not attributed to IPPs (e.g., athletes' transfer contracts, and actors' and other performers' contracts).
5. Table 10.4 of the *BPM6* provides a number of examples for all categories of transactions linked to IPPs along with classification guideline specifying balance of payments items to which these transactions should be attributed. The *MSITS 2010* provides a more detailed classification of four main balance of payments services categories, which, given the availability of necessary statistical data, provide a significant volume of analytical information used, inter alia, in a number of adjacent fields of macroeconomic statistics.
6. According to international macroeconomic statistics standards, transactions in IPPs should be recorded on an economic ownership principle. Guidance on determining economic ownership of IPPs is provided in the *Guide to Measuring Global Production* prepared by the Task Force on Global Production.

## III. CHALLENGES IN CLASSIFICATION AND COMPILATION OF IPPS IN ESS

### A. Classification Challenges

7. **There is insufficient clear consistent definition/guidance in statistical manual on what is considered a part of IPPs.** For instance, the *BPM6* classifies audiovisual products as IPPs while, based on the *2008 SNA* definition, the audiovisual products cannot be unanimously regarded as “the outcome of research, development, investigation or innovation leading to knowledge”.

8. **Another issue is the attribution of IPPs to balance of payments components.**

For instance, according to the *BPM6*, sale of marketing assets is recommended to be recorded under *acquisition/disposal of nonproduced nonfinancial assets* in capital account. However, the creation of any brand, logo, domain, etc. contains also elements of production related to their creation and marketing. The approach to be applied for deciding on the classification of author`s rights also needs more clear guidance with regard to purchase of copyrights for original works of art that should be reflected under services category, while their further resale should be recorded in capital account.

9. **The IPPs give raise to a variety of borderline cases in their treatment in macroeconomic statistics.** This proves the need in more granular guidance because no matter how simple and precise concepts and classifications may appear, there are inevitably difficult cases when they cannot be easily attributed to specific balance of payments categories. The correct attribution of IPP-related transactions to balance of payments components is particularly relevant for the SNA as the transactions in IPP-related components are attributed to production account and further have impact on gross fixed capital formation and consumption accounts.

## **B. Data Collection Challenges**

10. **Assuring comprehensive data sources is one of the main challenges in the compilation of IPPs-related data.** When the international transactions reporting system (ITRS) is used as the main data source for the balance of payments compilation, all transactions between companies conducted through banking system should be accounted for in banks' reports; however, the accurate attribution to balance of payments components of cross-border transactions in IPPs requires a significant amount of additional information, which is often difficult to obtain for reporting banks. Consequently, compilers have to implement additional collections on cross-border transactions in IPPs through supplementary surveys.

11. **Survey-based data collection also involves a great number of difficulties as the IPPs grow in diversity, complexity, with their values rising in the process of production.** Their production becomes more specialized, with involvement of simultaneous efforts of several companies. Taking into account the intangible nature of IPPs, the chain of their production may involve producers from different countries. In addition, in IPPs production, the role of micro-enterprises and freelancers is increasing, as they are capable of performing separate segments of research and development or software production (e.g., certain computer games' components). All the above makes more complex targeting of survey population, assuring the representativeness of the sample, and collecting IPP-related detailed data.

12. **Regarding Customs statistics as a data source for transactions in IPPs,** due to their intangible nature the related flows may either not be recorded at all or be recorded as a part of goods' value that includes the IPPs component.

13. **The use of data from several sources for recording IPPs-related transactions may lead to double counting.** For instance, software installed on computers may be

reported both as part of external merchandise trade by the Customs and as part of international trade in services by IPPs producing companies.

### C. Valuation

14. **Due to intangible nature of IPPs, and in the absence of an active market for identical IPPs in the framework of transactions between affiliated enterprises, an additional issue arises in analyzing the transfer pricing for such products in transactions between affiliates.** The conversion of transfer prices into market values for their recording in direct investment statistics is complex and more guidance would be needed.

15. **In the framework of multinational enterprises' (MNEs) transactions, the practice of equity investment in the form of IPPs becomes more and more widespread.** Consequently, proper valuation of transactions with IPPs may become an important element in resolving the problem of finding a fair value of unlisted companies having a negative value following the own-funds-at-book-value approach.

### D. Recording on Change of Economic Ownership Basis

16. **So far considered the most challenging issue, the recording of IPPs on change of economic ownership basis has aroused most of discussions around IPPs.** The conceptual question is whether international transactions in IPPs and other knowledge-based capital should be recorded on an economic ownership principle, as opposed to legal ownership. This is a complex issue, with a number of options under consideration<sup>1</sup>—each one with important methodological and conceptual consequences.

17. **Current guidance requires recording a change in economic ownership when a financial transaction between two institutional units occurs, which corresponds to a change in legal ownership.** Using economic ownership principle raises difficulties when the ownership is transferred within the framework of direct investment relationship without a corresponding financial flow—it becomes challenging to define the value of the IPP and exact timing of the transfer of ownership. Even when situation is not a matter of fiscal optimization, the economic ownership of IPPs is difficult to attribute inside the MNE chain. Moreover, intangible nature of IPPs allows MNEs to freely allocate their production, use, and economic ownership of IPPs to MNE's entities in different countries. Recording of which entity is the economic owner of the IPP has direct impact on how the charges related to the IPP's use are accounted for in the balance of payments and direct investment statistics.

## IV. WAY FORWARD

18. **The growing importance of IPPs in international trade, growing interest of users to transactions in IPPs, together with lack of their clear definitions, underscore**

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<sup>1</sup> See Ribarsky et. al (2018) "*The Measurement of Stocks and Flows of Intellectual Property Products*" for a discussion of these options.

**the need in further methodological work in this area.** To better feed users' appetite in statistics on IPPs, consideration might be given within the upcoming revision of statistical manuals to identifying the transactions in all IPPs under a separate combined category within the balance of payments framework (e.g., similar to remittances components). This would require including an additional standard component in *BPM6* and *MSITS 2010*. Introduction of such component would be useful for researchers analyzing the developments in IPPs market.

19. **Also, it may be considered drafting a Guide on compilation of IPPs statistics in ESS.** The Guide would cover the methodological basis of cross-border statistics in IPPs, possible data sources to be employed, as well as would elaborate on main challenges faced by compilers. It could also provide a review of best practices of data collection and compilation of IPPs statistics.

20. **A way forward could be** the creation of a BOPCOM task force to examine the need for developing broader guidance on collecting and disseminating data on cross-border IPP-related transactions, and the benefit of identifying transactions in IPPs in a separate standard balance of payments component. The Task Force would bring together a few country representatives as well as international organizations with experience in the field, and present proposals for a way forward to the Committee at its 2020 meeting. Coordination with ongoing work in the area of national accounts undertaken by the Eurostat-OECD Task Force on Land and Other Non-financial Assets should be properly ensured.

*Questions for the Committee:*

1. *Does the Committee see a need for the development of guidance on data collection and compilation of statistics on cross-border IPP-related transactions?*
2. *If so, would the Committee agree on the proposal to set up a BOPCOM task force to examine the need for developing broader guidance to collect and disseminate statistics on IPPs and to report back to the Committee at its 2020 meeting?*
3. *Provided agreement on the previous proposal, Committee is encouraged to provide initial comments to the draft terms of reference included in Appendix II. Further comments can be provided through a written procedure following the Committee's meeting.*

## Russian Federation`s Experience in Compilation of Statistics of Trade in IPPs

The methodology applied by the CBR in calculations of the balance of payments aggregates related to IPPs is fully consistent with international standards set out in the *BPM6* and *MSITS 2010*. A significant part of transactions related to IPPs is reflected within the current account of the balance of payments.

In the balance of payments, within *trade in goods*, reflected are sales of intellectual property products that are supplied on a material medium with termless usage rights. Information on sales of intellectual property products attributed to the goods category comes from the customs statistics.

Within *balance on trade in services*, item *charges for the use of intellectual property* may be separately identified, which includes payments for temporary use of patents, trademarks, copyrights, ownership rights for information on industrial processes, charges for licenses for the use of outcomes of research and development; charges for licenses to reproduce and distribute intellectual property objects (manuscripts, computer software, cinematographic works, audio records). Charges for licenses without reproduction and distribution rights for intellectual property objects are classified under *computer services* or *audio-visual and related products* items, depending on the substance of the license agreement. Purchases (sales) of the outcomes of research and development (R&D) are included within *R&D services*.

Purchases (sales) of trademarks, franchises, brand names, and commercial logos are not regarded as services but are classified as *acquisition/disposal of nonproduced nonfinancial assets* within the *capital account* of the balance of payments.

The main data source for compiling services data are the ITRS reports, which contain supplementary information on contracts underlying settlements of the Russian Federation residents with nonresidents. Data on transactions with IPPs reflected within capital account originate from the same source. Based on results of data collection, the CBR works in cooperation with the responding banks to verify and validate the data. In cases when ambiguities arise regarding interpretation or classification of transactions, compilers contact the reporting banks which clarify the details of transactions using contractual data. Sometimes that also involves forwarding *Ad hoc* information requests to the companies conducting the transactions. In addition, under the auspices of the Eurasian Economic Commission, bilateral comparisons of balance of payments aggregates are conducted by partner countries, a special investigation of the underlying reasons for asymmetry is undertaken in instances of considerable deviations.

The received statistical data are included in ESS and published together with other data on the CBR`s website.

Permanent growth is observed in analysts` interest in data on transactions with IPPs. They try to analyze the volume of transactions, their dynamics, the phenomenon`s



scope, the level of the country's involvement in IPPs exchange process with other countries and opportunities for IPPs related services' exports growth. One of the most important directions of the economic policy of the country is the development of highly technological industries of the economy and the expansion of nonenergy exports, including in the area of transactions with IPPs.

**Table 1. Russian Federation's Data on Main Balance of Payments Categories Related to IPPs for 2016–2018**

*millions of US dollars*

**Charges for the use of Intellectual Property**

	Turnover			Exports			Imports			Balance		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
<b>Total</b>	5,545.1	6,712.6	7,164.3	547.8	732.8	876.1	4,997.4	5,979.8	6,288.2	-4,449.6	-5,247.0	-5,412.1

**Computer Services**

	Turnover			Exports			Imports			Balance		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
<b>Total</b>	5,726.6	6,815.2	7,58.8	2,663.7	3,416.9	4,060.8	3,062.9	3,398.3	3,521.0	-339.2	18.6	539.8

**Audiovisual and Related Services**

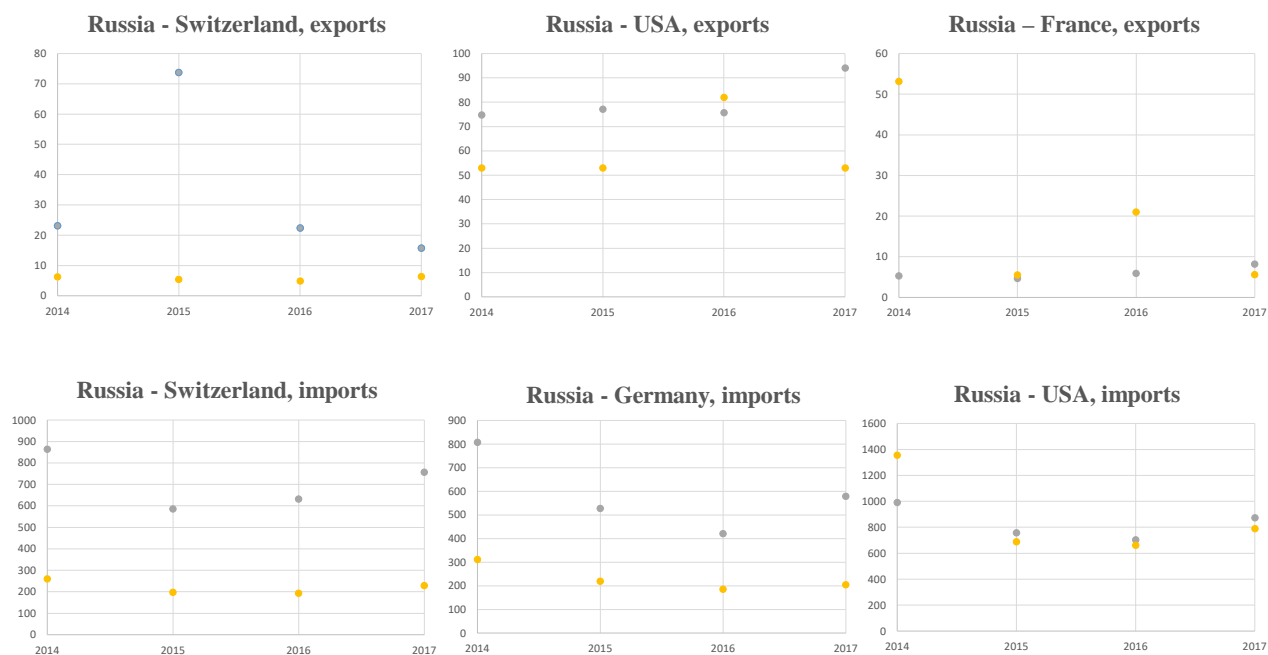
	Turnover			Exports			Imports			Balance		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
<b>Total</b>	653.6	909.4	1,014.5	162.1	200.3	210.7	491.6	709.1	803.7	-329.5	-508.8	-593.0

**Research and Development Services**

	Turnover			Exports			Imports			Balance		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
<b>Total</b>	559.1	558.9	591.8	394.7	430.1	419.1	164.4	128.8	172.7	230.3	301.4	246.5

Comparisons are also conducted with partner countries' data, which enable data quality analysis and identification of main reasons underlying data asymmetry. In particular, after obtaining access to the OECD-developed tool for investigating asymmetries based on the external trade in goods and services statistical database, the CBR received an additional source of information and a sufficiently convenient tool for analyzing divergences in bilateral statistics.

## Divergences of Russia's Data with Data Provided by Partner Countries Under the Item Charges for the Use of Intellectual Property



Besides, analysis is conducted of data consistency with SNA indicators compiled by the National Statistical Office of the Russian Federation.

The main factor challenges in data collection in the Russian practice is the ambiguity of classifying IPPs-related transactions. In particular, in the process of filling out the report forms by respondents, which later provide the basis for banks' reports used to compile the balance of payments statistics, instances of erroneous classification and attribution of IPPs-related transactions to improper categories are quite frequent. Similar difficulties in compiling balance of payments statistics are reported by our partner countries in the Eurasian Economic Union.

For the purpose of obtaining greater details in data collected by the CBR, in 2017 changes were introduced in ITRS report forms, which provided additional details for identifying specific transactions in computer services.

The CBR continues its work in searching sources of additional information for the compilation of statistics of cross-border transactions with IPPs and analyzes the existing report forms received from enterprises involved in that sphere of activity. Compilers held meetings with representatives of self-regulating organizations, whose members include software-developing companies, with the objective of collecting the necessary information. Discussion is underway with the competent ministries and agencies on the ways to improve this area of statistics.

## **Terms of Reference of the BOPCOM Task Force on Compiling Data on Intellectual Property Products**

### **BOPCOM TASK FORCE ON COMPILING DATA ON INTELLECTUAL PROPERTY PRODUCTS**

#### **Terms of Reference**

##### **I. BACKGROUND**

Recording of transactions associated with IPPs is a highly relevant topic for both external sector statistics (ESS) and other fields of macroeconomic statistics. Globalization and the rising importance of IPPs in production processes, large transactions associated with the reallocation of IPPs within multinational groups, rapid development of high-end technological production, appearance of new forms of IPPs, and the development of digital trade result in substantial growth in transactions associated with IPPs. The growing importance of IPPs in international trade, growing interest of users to transactions in IPPs, together with the lack of clear definitions, underscore the need for further methodological work in this area. Against this background, the Committee agreed that a task force be constituted to develop broader guidance to collect and disseminate statistics on IPPs.

##### **II. OBJECTIVES**

The task force will have the primary objective to develop broader guidance for the collection and dissemination of statistics on cross-border transactions in IPPs in close coordination with national accounts and taking as starting point the work done by the OECD and Eurostat, and advice on whether transactions in IPPs should be separately identified in balance of payments statistics. The task force will develop an appropriate strategy for compiling IPP statistics within the existing framework and assess whether a new data collection approach is necessary, in which case it should design a new template.

Central to achieving this objective, the task force will examine the guidance currently in place to collect cross-border data on IPPs and to incorporate them in balance of payments and international investment position statistics. This will require an interaction with existing task force(s)/international organizations (in particular the ISWGNA Research Agenda Globalization subgroup on “economic ownership and recording of intellectual property products”) that undertake and/or have experience in IPPs and with compilers of other macroeconomic statistics (e.g., national accounts). Statistical development targets for IMF members to improve the coverage of IPPs in ESS may be defined. The task force may also propose a convenient way for disseminating comparable cross-border statistics in IPPs.

### **III. RULES OF PROCEDURE**

The TFIPP will meet and discuss by electronic means (i.e., mostly via email, while occasionally it can also hold video-conferences).

### **IV. PROPOSED COMPOSITION**

The TF-IPP will comprise a few Committee members and international organizations representatives ideally with an interest and relevant experience in the field. The OECD will chair the TF-IPP, while the IMF will provide secretarial support. The ISWGNA will be invited to nominate participants in order to ensure coordination with the work done in the context of the ISWGNA.

### **V. TIMEFRAME AND DELIVERABLES**

The work will take place during November 2019–August 2020. If needed, the Committee may decide to extend its timeframe until August 2021. The following deliverables and timetable are currently envisaged:

1. In mid-January 2020, work plan including timetable, actions and expected deliverables.
2. Final report submitted at the next Committee meeting (to be sent to the IMF by mid-September 2020). If the TF-IPP considers it necessary to request an extension, only a preliminary report would be required for the 2020 Committee meeting.