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Country experience with measuring global production**How to implement the principle of economic ownership****Prepared by Eurostat¹***Summary*

This document gives an overview of rules and guidelines regarding the principle of economic ownership. The Guide on Measuring Global Production elaborates on the issue of change of economic ownership in case of various global production arrangements including the role of intellectual property products (IPPs).

Furthermore, the results of two Eurostat questionnaires concerning globalisation are discussed. The results show that many countries lack good data on MNEs regarding economic ownership of IPPs and the associated production activities abroad. As a way forward some elements of a required statistical infrastructure for analysing economic ownership are given.

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I. Introduction

1. Ownership is a crucial concept of the System of National Accounts (SNA). The fundamental units identified in the SNA are the economic units that can engage in the full range of transactions and are capable of owning assets and incurring liabilities on their behalf. Most transactions (apart from generating output) concern the change of ownership of products.
2. In section II of this paper the general rules regarding the principles of economic ownership and the distinction between legal and economic ownership are described. Subsequently, in section III the evolution of rules regarding change of ownership concerning transactions with the rest of the world and the recommendations of the Guide to Measuring Global Production (UNECE, 2015) about principles of economic ownership inside multinational enterprises (MNEs) are discussed.
3. In section IV the focus is on the recommendations regarding ownership of intellectual property products (IPPs) inside global production arrangements, from the above mentioned Guide.
4. Section V elaborates on the results of two recent stocktaking exercises by Eurostat regarding global production.
5. Finally, section VI deals with the conclusions and also contains a proposal for a future statistical infrastructure that is necessary to apply the principle of economic ownership in practice.

II. Economic ownership

6. The criterion for recording the transfer of products from one unit to another is that the economic ownership passes from one to the other. The legal owner is the unit entitled in law to the benefits of possession. However, a legal owner can contract with another unit for the latter to accept the risks and rewards of using the goods in production, in return for an agreed payment. Therefore the guidelines make a distinction between legal and economic ownership. 2008 SNA (para 3.26) specifies: *The economic owner of entities such as goods and services, natural resources, financial assets and liabilities is the institutional unit entitled to claim the benefits associated with the use of the entity in question in the course of an economic activity by virtue of accepting the associated risks.*
7. In many cases the economic owner and the legal owner of an entity are the same. Where they are not, the legal owner has handed over responsibility for the risks involved in using the entity in an economic activity to the economic owner along with associated risks. In return the legal owner accepts another package of risks and benefits from the economic owner. An example of the transfer of economic ownership is the financial leasing of planes or ships.

III. Economic ownership in globalised production arrangements

8. 2008 SNA says in the Preface (under: 'New features of the System of National Accounts') regarding globalisation and related issues:
9. *The application of the principle of change in ownership of goods has been made universal, resulting in changes to the recording of merchanting and of goods sent for processing, both abroad and within the domestic economy, and then returned to the owner. These changes have shifted the focus away from the physical movements of goods to the*

impact on the economies of the owner of the products and the processor. As a result, they are consistent with international financial transactions that are increasingly important in a globalized economy.

10. In practice this means for instance that goods sent abroad for processing (and returned after processing) no longer are included in export/imports of national accounts/balance of payments. According to 1993 SNA (and BPM5), a change of economic ownership was imputed in case of goods sent abroad for processing. Actually, the text on this issue in 1993 SNA and BPM5 were not completely identical. 2008 SNA and BPM6 are fully in line and in case there is no change in ownership, no imputations should be made. The only transaction that should be included in national accounts (and BoP) in this respect is the import/export of a (processing) service. A new trade in service category – manufacturing services on physical inputs owned by others – is included in BPM6 (and MSITS2010).

11. Another important change refers to merchanting. In contrast to goods sent abroad for processing which cross a country's border, but are excluded from international trade in goods (in national accounts/BoP), there are exports of goods that occur without the goods crossing the country's border. In case of merchanting, a resident purchases a good from a non-resident and subsequently sells the good to another non-resident, without the good entering the merchant's economy. According to 1993 SNA/BPM5 merchanting transactions were excluded from trade in goods. Instead, the difference between the sale and purchase of goods was included as 'merchanting' service. Following 2008 SNA/BPM6 the acquisition of goods by merchants is shown under goods as negative exports of the economy of the merchant. The sale of goods is shown under goods sold under merchanting as a positive export of the economy of the merchant. Finally, the difference between sales over purchases of goods under merchanting is shown as the item 'net exports of goods under merchanting'.

12. The Guide to Measuring Global Production recognises (in para 3.1) that in the context of global production the identification of changes in the ownership of goods and assets can be quite a challenge to statistics compilers. This is particularly true for the globalised production activities of MNEs. The entangled webs of MNE ownership structures, often spanning continents, can be a real challenge for statistics compilers, as it may not always be easy to break down these activities on a country-by-country basis.

13. Ownership relations may sometimes suggest that affiliated companies are not acting independently from their parents. The level of independence in their corporate behaviour determines whether or not an affiliated company is holding assets on its own behalf and is, therefore, engaged in economic transactions. The ECB/Eurostat/OECD Task Force on Head Offices, Holding Companies and Special Purpose Entities recommends in their final report (2013) that entities with hardly any autonomy, and owned by non-residents, are always to be considered as separate institutional units by virtue of the fact that they are owned by non-residents.

14. Key issue is that the value added of MNEs is properly assigned to individual national economies. In order to do this, three aspects of ownership should be distinguished:

- a. Ownership of the MNE structure of subsidiaries, associates and other affiliates;
- b. Ownership of the output of goods and services produced along the global value chain;
- c. Ownership of assets within MNEs.

15. Recommendations regarding these aspects from the Guide to Measure Global Production (para 3.87):

- The recognition of legal (and taxable) entities is usually the point of departure for setting up accounts for production, value added and balance sheets. However, in the context of MNEs the nature of the transactions that these units are undertaking are not always that straightforward and may be at variance with the principles of economic substance and ownership. This is particularly true for transactions undertaken by SPEs. Applying the principles of economic ownership to such cases, in contrast to legal ownership, would be extremely difficult. National accountants usually have no alternative than to follow the reality as reported by these SPEs i.e. recognize them as separate institutional units. Consulting the tax authorities may be a way to obtain a better understanding of the nature of these SPEs.
- The exchanges of goods, services and assets inside MNEs should be carefully examined as these exchanges may not automatically coincide with market transactions. The transfer pricing methods applied by MNEs largely determine the extent to which such international transfers of goods and assets can be recorded on an 'arm's length' basis. This is particularly relevant for the intra-group services provided by e.g. head offices and dedicated R&D units. The case-by-case approach followed by the so-called 'large and complex cases units' installed by various NSIs is probably the best way to proceed.

IV. Ownership of intellectual property products inside global production

16. With the introduction of 2008 SNA the list of intellectual property products being recognised as (produced non-financial) assets, has been extended. Research and development is added to the list of mineral exploration and evaluation, computer software, databases, entertainment and literary or artistic originals.

17. Focusing on the ownership of intellectual property products, the Guide to Measuring Global Production states (in para 4.2 and further):

- The intangible nature of an IPP provides significant scope for an MNE to locate the IPP original in an economy that maximises the overall post-tax MNE profits. This is not necessarily the same economy as where the IPP original was produced and nor is it necessarily the same economy where services or copies provided by the IPP are subsequently embodied in, or used to produce, other products.
- For MNEs in particular, establishing which affiliate is the economic owner of the underlying IPP within such a fragmented process is non-trivial, particularly as transactions are not always identifiable, and where they are, may not be at arm's length prices nor necessarily align with national accounts concepts of economic ownership. Depending on various conditions, the following three units could be identified as the economic owner:
 - a. As the ultimate beneficiary, the parent company often finances directly or indirectly (via an affiliate) the acquisition or production of the IPP (i.e. the original);
 - b. An affiliate that uses the IPP in its production of other goods and services (excluding generating IPP copies, licenses to reproduce, or licenses to use the IPP);
 - c. Another intermediary affiliate, which could be the original producer (such as a dedicated R&D or software development unit) of IPPs, or a so-called Special Purpose Entity (SPE) acting as the legal owner of IPPs and obtaining the revenues of IPP copies or licences to use or reproduce.

18. The Guide to Measuring Global Production recommends applying a decision tree (figure 4.1 in the Guide) for determining economic ownership of an IPP observed in global production. The guidance relies inevitably on information on IPP control and ownership and other characteristics of units engaged in IPP related transactions.

19. Further reference concerning this topic is made in the Guide to Measuring Global Production to Chapter 7 of the Impact of Globalization on National Accounts (2011, UNECE, Eurostat and OECD) and the OECD Handbook on Deriving Capital Measures of Intellectual Property Products (2010).

V. Results of Eurostat Questionnaires

20. How do national statistical institutes tackle the issue of defining economic ownership? To address concretely the challenges of globalisation to national accounts and balance of payments statistics, Eurostat has started the project Global Production and Integrated Global Accounts (IGA). A Task Force has been formed and one of the first actions was a stocktaking exercise on the state of play in the EU Member States regarding the recommendations on measuring global production.

21. Apart from this IGA stock taking exercise, a separate questionnaire concerning globalisation was sent to the European Union's 'GNI Committee' members at the end of 2016. This questionnaire was a follow-up on the dissemination in July 2016 by the CSO of significantly revised national accounts/balance of payments figures for Ireland and the questions were more concentrated on similar situations (huge amount of IPP assets, relocations, etc.). At the end of this section the relevant results of this questionnaire will be discussed. First the IGA stock taking exercise.

IGA Stock Taking Exercise

22. In November 2016 a questionnaire was addressed to the compilers of national accounts and balance of payments statistics in Europe. The purpose of the questionnaire was to collect information on current practices, main challenges and future plans concerning measurement and recording of global production arrangements in a globalised economy. The questionnaire covered the following topics:

- Principles of economic ownership
- Global production arrangements
- Goods sent abroad for processing
- Merchanting
- Factoryless goods producers, extended supply and use tables
- Quasi transit trade
- Contact with MNEs
- Ensuring national data consistency and resolving international data asymmetries
- Main measurement challenges and future plans

23. This paper only deals with the answers on the questions regarding economic ownership. The full results of the survey will be discussed in a separate paper. The IGA questionnaire contained two questions regarding economic ownership:

Question 1:

Could you describe the methodology you use to establish economic ownership for the three elements material inputs, intellectual property and output (e.g. if you use a decision tree similar to Figure 4.1 in the Guide to Measuring Global Production), particularly when the entity concerned is part of a multinational enterprise?

Question 2:

What data sources do you use, if any, to identify the economic ownership of intellectual property products (IPPs), related to trade flows and in properly linking IPPs use to the individual economic activities inside the global value chain?

24. 27 EU Member States and 4 non-EU countries responded to the questionnaire. Apart from 2008 SNA/ESA 2010 and BPM6, about half of the responding countries used the Guide to Measuring Global Production regularly or occasionally for better understanding the different production arrangements and consider it as useful support in how to classify flows reported by MNEs.

25. 14 countries mentioned business accounts (profit and loss account, balance sheet) of the enterprise as main source for deciding on the economic ownership of material inputs, intellectual property and output, particularly when the entity concerned is part of an MNE. One country added that SBS data is compared and reconciled with data from ITGS and ITSS. For large units this reconciliation is carried out case by case on the micro level to identify the role of these units in cross border transactions.

26. 6 countries applied a decision tree similar to the one described in the Guide to Measuring Global Production (Figure 4.1) to correctly identify the economic ownership of IPPs. It was noted that the decision tree was considered useful although it does not provide a 'mechanical' answer to every practical case.

27. Regarding the economic ownership of IPPs, 5 countries mentioned that they have intensive regular contacts with the largest MNEs. The information collected, combined with survey data, ensures that economic ownership of IPPs and IPP related transactions is correctly attributed. Apart from this, 6 countries mentioned the business accounts of the enterprises as data source for the economic ownership of IPPs. 2 countries mentioned the direct reporting for balance of payments/IIP as data source. 2 other countries mentioned separate procedures for SPEs. Both countries host relatively many SPEs.

28. Some countries referred in their answers to ITSS data to collect IPP related international transactions (royalties/licenses payments).

GNI Committee Questionnaire on Globalisation

29. On 12 July 2016 the CSO published revised figures for 2015. GDP as well as GNI of Ireland was revised upward significantly. This revision can be seen as an effect of increasing globalisation. It is primarily due to the relocation to Ireland of a limited number of big economic operators.

30. The relocation (re-structuring, on-shoring) from outside EU is registered in the national accounts as 'other change in volume', not as a transaction. The companies concerned have huge amounts of IPPs on their balance sheets. The physical production mainly takes place abroad (outside EU). The global production arrangement can be characterised as processing/factoryless goods producing. However, the imports/exports concerned are included in the Irish national accounts/balance of payments net as prescribed in merchanting (negative and positive exports). Due to the relocation (net) exports, output and gross operating surplus of Ireland increased significantly (and thus GDP). Finally, GNI increased as well, although less than GDP (due to high figures on consumption of fixed capital).

31. After this 'event' the question of consistency and comparability arose. Would there be other Member States that have observed similar relocations of – companies with – huge amounts of assets and if that was the case, did they include the changes in the same way as Ireland did?

32. For this purpose a short questionnaire was prepared. The goal was to have at short notice an overview of the situation regarding multinational enterprises with huge amounts of IPPs on their balance sheets. The questionnaire was distributed to members of the GNI Committee end October 2016. The first preliminary results were presented to the Directors of Macro-Economic Statistics (DMES) in their meeting in Luxembourg mid December 2016.

33. Ultimately 31 countries sent replies to Eurostat: all 28 EU Member States and 3 EFTA countries.
34. The first question was about companies with huge amounts of IPP assets. Countries were requested to provide a list of the biggest (by value of IPP assets) resident MNEs (maximum 15 enterprises and only enterprises with minimum 100 million euro of IPP assets on their balance sheet).
35. 10 countries provided a list with information (value of IPP assets, number of employees, role of the resident unit) on 15 enterprises. 9 other countries provided a list with information on less than 15 enterprises. 6 countries declared that there are no such companies (with more than 100 million euro of IPP assets on their balance sheet) in their country. Another 6 countries gave the answer 'Don't know' (2 of them belonging to the 10 largest economies in the EU).
36. Only 3 countries reported enterprises with more than 5 billion euro IPP assets on their balance sheet. One (big) country indicated that no information was available on IPP assets (on enterprise level) and provided a proxy.
37. On the question "How has the economic ownership of the IPP assets concerned been determined?", most countries that were able to provide a list of companies mentioned companies' annual report/financial statements/balance sheets.
38. Most companies listed have more than 1 000 employees although there were some exceptions. Some countries mainly provided information on companies with less than 10 employees.
39. Regarding the role of the resident unit listed by the countries, the situation was quite heterogeneous. As far as countries were able to define the role, 'head office' (European or global) and 'no head office' both occurred. On the question how the role of the resident unit concerned was determined; companies' annual reports and general business register were most mentioned.
40. The second main question was about production abroad. Countries were asked if there were companies on the list of the previous question – so units resident in their country with huge amounts of IPP assets on their balance sheet – that produce output (e.g. via contract manufacturing) outside the geographical territory, based on the economic ownership of the IPPs concerned.
41. 9 countries replied that this is the case while 13 countries answered 'No'/'Not applicable'. Another 9 countries replied 'Don't know' (5 of them belonging to the 10 largest economies in the EU).
42. Some countries referred to merchanting (were there should not be a transformation of the goods involved). Some other countries raised the issue of not being able to distinguish domestic and foreign contract manufacturing.
43. The third main question regarded relocations. Countries were asked if they had observed (from 2010 onwards) any relocations to or from their country of companies with huge amounts (more than 100 million euro) of IPPs on their balance sheet.
44. 4 countries elaborated on specific cases. All other countries replied 'No' or 'Don't know'.
45. The next main question was about contract manufacturing by resident units. Countries were requested to provide a list of the biggest companies (by number of employees) resident in their country that do manufacturing for companies abroad with the economic ownership of the inputs and outputs concerned with the principal abroad (maximum 15 enterprises and only enterprises with minimum 1 000 employees).

46. 12 countries provided a list with one or more companies. Another 12 countries replied that they had not detected such companies (with these requirements). 7 countries answered 'Don't know'.

47. Two thirds of the companies listed had between 1 000 and 2 500 employees. 21 percent of the companies had 2 500 – 5 000 employees and 13 percent more than 5 000 employees.

48. In almost all cases the contract manufacturing was done for a mother/head office abroad.

49. Finally there was a question on consistency business statistics – national accounts. Countries were asked if the business statistics in their country follow the national accounts rules as regards the change of economic ownership in case of transactions in global production arrangements.

50. Two third of the countries answered that this is the case in their country. Only 5 countries explicitly indicated that business statistics and national accounts do not follow the same rules in this respect.

VI. Conclusions and way forward

51. Regarding the IGA stocktaking exercise concerning economic ownership the main conclusion should be that the situation is far from perfect. About half of the responding countries used the Guide to Measuring Global Production regularly or occasionally for better understanding the different production arrangements and consider it as useful support in how to classify flows reported by MNEs. So, the other half of the countries did *not* use the Guide to Measuring Global Production.

52. From the answers it can be deduced that for almost half of the countries the issue of establishing economic ownership is not addressed in a systematic way. For some of these countries the issue could be less relevant but certainly not for all.

53. Due to the unique character of large MNEs the case-by-case approach followed by the so-called 'large and complex cases units' is seen as probably the best way to proceed (Guide to Measuring Global Production, para 387c). Nevertheless, only 5 countries mentioned that they have intensive regular contacts with the largest MNEs regarding the economic ownership of IPPs.

54. The key question of the GNI Committee survey was: "Are there other Member States [besides Ireland] that have observed similar relocations of – companies with – huge amounts of assets and if that is the case, did they include the changes in the same way as Ireland did?".

55. The answer on this question is that these (large) cases are very rarely observed. However, there is the possibility that in many cases the answer 'Not observed' actually means 'Don't know'. This is worrying, especially combined with the fact that some countries have no information about resident units with huge amounts of IPPs on their balance sheet.

56. It is alarming that a number of countries are lacking good data on economic ownership of IPPs and on associated flows of goods sent abroad for processing. What does this mean for the quality of data on imports and exports (based on the change of economic ownership) and of course gross value added/GDP?

Way forward

57. Implementing the principle of economic ownership in the national accounts/balance of payments in case of multinational enterprises is challenging. Moreover, the implementation should be done in a consistent way across countries. If not done properly, double counting (or omissions) and increased asymmetries will be the result. So, improving the data source situation regarding economic ownership issues concerning cross border transactions cannot be solved on a country-by-country basis.

58. Obviously, national accounts and balance of payments compilers need an adequate statistical infrastructure in order to be able to execute this difficult task. Profiling of MNEs is a prerequisite in this respect. Proper profiling of MNEs without international collaboration is an illusion. The setup of the EuroGroups Register is an important first step in Europe. Expanding to global coverage would be a logical next step. Unique business identifiers are a necessary tool for this work.

59. Finally, the issue of exchange of information, including micro data, between national authorities and across borders. It is often reported that restrictions regarding confidentiality, based on national legislation, prevent national accounts and balance of payments compilers from collaborating (though some countries are exploring if the legislation itself gives the restriction, or the way in which it has been implemented). Nevertheless, in order to meet high standards of quality and comparability, national accounts and balance of payments compilers will need to exchange data concerning individual companies (and transactions!). International organisations should play a facilitating role to meet those demands, and this can be seen in the work of the UNECE's Task Force on Exchange and Sharing of Economic Data and in the recommendations from the G20 Workshop on Data Sharing held in early 2017.

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