

G.5 Economic Ownership of Intellectual Property Products: Recording of Intra-MNE Transactions

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Determining economic ownership of intellectual property products (IPPs) among units of a Multinational Enterprise (MNE), and the recording of related transactions can be challenging as this affects the recording of assets and related income flows in macroeconomic statistics. Both the System of National Accounts 2008 (2008 SNA) and Balance of Payments and International Investment Position Manual, sixth edition (BPM6) treat IPPs (originals, license to reproduce, and copies) as produced assets. The IPP assets created at one location in an MNE group may be funded by affiliates elsewhere in the group, can be traded, and can be used as an input into the production of other (non-IPP) goods and services. An MNE may also assign legal ownership of the IPP asset to a special purpose entity (SPE). With all these arrangements in place, in the case of MNEs, the change in ownership of an IPP, from the economic point of view of transfer of all risks, rewards, rights and responsibilities of ownership, is not straightforward. Based on the review of existing materials, and past discussions, this Guidance Note (GN) discusses five specific options for recording economic ownership. The GZTT, during the consultation, revealed that a default solution of assigning economic ownership of the IPP should not be applied, rather the underlying arrangement should be considered. In that respect, Option 4 has garnered more support with a more nuanced approach based on the Guide to Measuring Global Production (GMGP) decision tree. However, regarding attributing economic ownership of IPPs to an SPE, while some GZTT members have expressed reservations, the default solution in the GMGP decision tree of assigning economic ownership of the IPP to the SPE, in correspondence with legal ownership was discussed and recognized. The GMGP decision tree considers an SPE as an institutional unit and is aligned to the current recommendation of the GZTT in its GN G.4 “Treatment of Special Purpose Entities and Residency”.

SECTION I: INTRODUCTION TO THE ISSUE

1. **One of the main statistical challenges is identifying economic ownership² of previously produced intellectual property products (IPPs)³ amongst units of a Multinational Enterprise (MNE).** IPPs are defined in the *System of National Accounts 2008 (2008 SNA)* as fixed assets such as computer software and databases, research and development (R&D), entertainment, literary and artistic originals, mineral exploration, and evaluation.⁴ Both the SNA and the Balance of Payments Manual (BPM)

¹ Prepared by Mr. Michael Connolly (GZTT co-chair, Ireland) and Ms. Jennifer Ribarsky (GZTT Secretariat, IMF). Input from an earlier paper by Nadim Ahmad (OECD) and GZTT consultation have been incorporated.

² In determining ownership, the national accounts and balance of payments focus on the concept of economic ownership defined as follows: “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” (2008 SNA, paragraph 3.26)

³ Previously produced IPPs include the property rights arising from the outcomes of research and development (i.e., patents), software originals, and artistic originals.

⁴ Intangible assets such as marketing assets are a related category. The 2008 SNA considers these as non-produced assets and are only included on the balance sheet when their value can be derived from explicit transactions. Guidance Note G.9 “Payments for Non-Produced Assets (Marketing Assets)” revisits the issue of whether marketing assets should be considered as produced assets. Furthermore, the asset boundary may be extended in the next update of the SNA to include data as being discussed by the Digitalization Task Team.

recognize IPPs as “knowledge-capturing products” over which ownership rights may be established.⁵ While some IPPs, such as computer software, can be stored on physical objects and therefore recorded as goods, most of IPPs are recorded under services in the Balance of Payments.⁶ Because IPPs are not physically constrained and the use of IPP by one part of an MNE group does not prevent the simultaneous use by another part, the MNE can register the previously produced IPP in an economy that maximizes the overall post-tax MNE profits.

2. Determining economic ownership of IPPs, and the recording of related transactions becomes a major issue as it affects the recording of assets and related flows in macroeconomic statistics. Both the *2008 SNA* and the *Balance of Payments and International Investment Position Manual, sixth edition (BPM6)* treat IPPs (originals, license to reproduce, and copies) as produced assets. Because the assets are produced, any international trade in them, or international services provided by them (e.g., rights to use the IPP), should be recorded in the goods and services accounts. In the national accounts, the acquisition of IPP assets is recorded in the capital account and the corresponding loan or funding for the asset is recorded in the financial account of both national and international accounts. Annex II provides a discussion on the relevant balance of payments categories and the central product classification.

3. The creation of IPP assets at one location in an MNE group is quite often funded by affiliates elsewhere in the group. These arrangements are known as cost sharing agreements (CSA)⁷ where the costs associated with research at one location are funded by a number of affiliates across the international group. These are contractual agreements in which the participants share certain costs and risks in return for having a proportionate interest in the expected outcomes. A CSA for sharing in intangibles development can eliminate the need for complicated cross-licensing payments and replace it with a more streamlined sharing of contributions and risks, effectively achieving joint ownership of the resulting intangible. Furthermore, the CSA may provide that the participants are allowed the exclusive right to exploit the intangible asset in specific countries or regions (e.g., in Latin America, Europe, Middle East and Africa (EMEA), Asia Pacific, etc.). In this way, all the partners are remunerated for their participation in the CSA when the research has a successful outcome.

⁵ *2008 SNA* paragraph 6.22 states “Knowledge capturing products concern the provision, storage, communication and dissemination of information, advice and entertainment in such a way that the consuming unit can access the knowledge repeatedly... They have many of the characteristics of goods in that ownership rights over these products can be established and they can be used repeatedly. Whether characterized as goods or services, these products possess the essential common characteristic that they can be produced by one unit and supplied to another, thus making possible division of labor and emergence of markets”. *BPM6* paragraph 10.8 states “...some knowledge-capturing products, such as computer software and other intellectual property products, may be traded separately from their production like goods.”

⁶ *BPM6* Table 10.4 illustrates the treatment of intellectual property in the balance of payments.

⁷ Also known as cost contribution arrangements (CCAs). For some CCAs, such as for intangibles development, the benefits from the CCA will be realized in the future, and the time lag between commencement and realization may be significant. Accordingly, it can be difficult to measure the expected benefits flowing from research and development CCAs. Discounted income or cash flow methods are often used (See paragraphs B.5.6.8. and following of Chapter B.5). Under the arm’s length principle, a participant’s contributions to a CCA must be consistent with its share of the expected benefits. This requires a direct approximation of a participant’s expected benefits and ensuring that its contributions reflect its expected benefits. Consequently, if a participant is expected to receive a significant direct benefit if the goals of the CCA are realized, the participant should make a significant contribution. See <https://tpguidelines.com/b-6-cost-contribution-arrangements/>.

4. **The economy acquiring the IPP asset can use the IPP as an input into the production of other (non-IPP) goods and services.** In these situations, gross value added (GVA) reported in the country where the acquiring unit is located could increase significantly through increased exports and domestic sales, essentially leveraging the IPP in production.⁸ In some cases, this addition to the stock of IPP in the economy is combined with the use of contract manufacturers abroad.⁹ Furthermore, significant changes to Gross Domestic Product (GDP) and Gross National Income (GNI) can occur due to increased consumption of fixed capital which will also impact reinvested earnings.¹⁰ Of course, for the economy that is disposing the IPP asset, one would see a decrease in the capital stock and a corresponding decrease in reported production and value-added because the economy is no longer leveraging the IPP in production.¹¹

5. **An MNE may assign legal ownership of the IPP asset to a special purpose entity (SPE).** One can question whether the related IPP services are “artificial” since the SPEs do not contribute to the MNE’s productive activities. Compilers will not easily be able to deviate from such legal arrangements and are usually forced to follow reported earnings on IPP investment as it is consistent with the actual cross-border flows resulting from economic transactions. However, the result can be that IPP related flows are allocated across countries in a way that distort economic realities.

6. **International tax rules are being modified to more align tax with economic ownership.** The OECD Base Erosion and Profit Shifting (BEPS) initiative recognized that it was too easy to separate taxable profit from value-creating activities under the pre-BEPS tax treaty and transfer pricing system. Part of this initiative aims at aligning taxation with a transaction’s economic reality rather than strictly focusing on the transaction’s legal terms. The revised OECD Transfer Pricing Guidelines for MNEs state that if an entity has the legal ownership of an intangible asset (and not the economic ownership), the entity should only receive a limited amount of remuneration for its legal ownership. The residual profit resulting from the intangible asset would be allocated to the intangible asset’s economic owner.¹² These rules have made it less attractive to move the intangible assets for tax purposes. See Annex III for discussion on BEPS and transfer pricing.

⁸ The shifting of the IPP asset itself does not impact value-added in the time period it is moved as the addition to the increase in gross fixed capital formation is offset by the import of a service. It is the potential use of the asset in production that impacts value-added.

⁹ Perhaps one of the best-known cases occurred in Ireland in 2015 where the shifting of the IPP asset to Ireland and the unit’s use of contract manufacturers abroad added significantly to GDP.
<https://unstats.un.org/unsd/trade/events/2016/nov-newyork/presentations/tue/3%20-%20CSO%20Ireland%20-%20Irish%20National%20Accounts.pdf>

¹⁰ See *BPM6* paragraph 11.45 and also Box II.5 Numerical Example of Calculation of Reinvested Earnings of a Direct Investment Enterprise—(b) consumption of fixed capital.

¹¹ There could also be situations where an economy that disposes/exports the IPP will maintain the institutional knowledge and thus will benefit in the future by providing export services such as maintenance and repair, upgrades, etc.

¹² To determine whether an entity has economic ownership of an intangible asset, the OECD Guidelines prescribe that the entity performs development, enhancement, maintenance, protection, and exploitation (DEMPE) functions.

ISSUES FOR DISCUSSION

7. **A change in ownership from an economic point of view means that all risks, rewards, rights, and responsibilities of ownership are transferred.**¹³ The application of this principle is not straightforward in the case of MNEs as discussed in Moulton and Van de Ven (2018), “*All affiliates of an enterprise group are to some degree controlled by their parent*”. However, that is not to say that affiliates cannot be economic owners of the assets they hold but the issue is more complicated for intangible products. Based on the review of existing materials, various options are discussed in this guidance note on recording of intra-MNE transactions in *previously produced* IPPs. The options for recording economic ownership are:

Option 1: The ultimate parent is deemed the economic owner of all IPP assets across the MNE group. The argument is that, in an MNE group, control is exerted centrally and consequently the risks are managed centrally and at the same time the returns are routed ultimately to the MNE headquarters (HQ). Therefore, the parent is the economic owner of all IPP assets.

Option 2: The producer of the IPP is deemed the economic owner of the IPP asset. In many MNEs, dedicated R&D units (affiliates) produce the IPP.

Option 3: The unit that uses the IPP in productive activities is the economic owner. This option assumes that the economic owner of the IPP is any unit that produces goods and services for which it, directly or indirectly through the use of contract manufacturers, makes use of the IPP.

Option 4: A more nuanced option based on the *Guide to Measuring Global Production (GMGP)* decision tree. The decision tree assigns economic ownership to a unit on the basis of whether the unit is (i) a producer of the IPP or not, (ii) whether it receives explicit payment to produce the IPP or a payment to acquire the whole of the previously produced IPP (corresponding with a change in ownership), or (iii) the use of the IPP (no change in ownership). Changes in ownership mainly follow the type of monetary transaction observed (i.e., whether it is payment for the current production, payment for the previously produced IPP asset, or licensing the use of the IPP), but default solutions are proposed where there is no conclusive evidence of a transaction.

Option 5: Intra-MNE transactions in cross-border previously produced IPP assets are viewed as a type of securitized asset and recorded in the financial account of the national accounts and balance of payments. A securitized asset is the bundling of an existing asset(s) into a tradable security. In such cases, capital assets are transformed into financial assets or the assets and payment profiles of the assets are used to create additional financial assets.

SECTION II: EXISTING MATERIAL

8. **The 2008 SNA and the BPM6 define the concept of economic versus legal ownership.**¹⁴ A change in economic ownership typically coincides with a financial transaction between two institutional

¹³ See 2008 SNA paragraphs A3.43–A3.44 and BPM6 paragraph 3.41.

¹⁴ 2008 SNA paragraph 3.26 states “*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*”.

units¹⁵ and this would therefore usually coincide with a change in legal ownership, although there are exceptions to this rule (e.g., financial leasing).¹⁶ *BPM6* further specifies that a change of “economic ownership” takes place even though the “legal ownership” remains unchanged in the case of transactions between an enterprise and its foreign branches. Furthermore, the *2008 SNA* paragraph A3.44 notes that for a non-financial asset, the user and not the legal owner may assume economic ownership if the *legal owner agrees that the user is entitled to the benefits deriving from using the asset in production in return for assuming the risks involved*.

9. **The 2008 SNA is silent on the treatment of “acquisitions” of assets that are not accompanied by some form of operating/financial lease or other explicit payment.** One of the primary factors for the distinction between economic and legal ownership in the international standards, was to assist in the treatment of acquisitions of assets acquired via operating leases that were not materially different from financial leases and for the treatment of public private partnership projects. Indeed, the only reference concerning ownership of IPPs in the SNA concerns guidance on paid licenses to use and reproduce IPPs.

10. **Since the publication of the manuals, additional guidance has been provided on addressing the statistical challenges emerging from economic ownership of IPP within MNEs.** The *OECD Handbook on Deriving Capital Measures of Intellectual Property Products (2010)* which provides extensive guidance on how to measure IPPs, Chapter 7 of *The Impact of Globalization on National Accounts (2011)*, and Chapter 4 of the *GMGP (2015)* detail the statistical challenges. The *GMGP* provides detailed guidance on the decision tree on which Option 4 of this GN is based. Lastly, the Joint Eurostat-OECD Task Force on Land and other Non-financial Assets (TFLONA) *Report on Intellectual Property Products* also reviews country practices on the recording of IPPs.

11. **Finally, several authors have examined the challenges associated with the recording of intellectual property products.** Some of these solutions are discussed in this note. Notably, De Haan and Haynes (2018), Moulton and van de Ven (2018), Rassier and Koncz-Burner (2015), and Connolly (2017) provide a deeper discussion of the various options.

SECTION III: OPTIONS CONSIDERED

12. **Conceptually, the aim of the SNA and BPM is to assign economic ownership of IPP assets to the unit that accepts the risks and rewards.** The *GMGP* translates the criteria associated with determining economic ownership—responsibility for repair and maintenance of the asset—in the case of IPPs. For IPPs, maintenance can be taken to mean the responsibility of paying for fees to maintain patents, copyrights, or other IPPs in question. Losses may not be relevant for IPPs, but termination of

¹⁵ An institutional unit is a unit that is capable of owning assets, incurring liabilities, and engaging in economic activities and in transactions with other entities. (*2008 SNA*, paragraph 4.2). The first step in the process is to determine if the unit is an institutional unit.

¹⁶ The lessor is the legal owner of the relevant asset, but the lessee is considered to be the economic owner. While the distinction between operating and financial leasing has disappeared in the International Financial Reporting Standards (IFRS), this does not change the recording recommended recording in the SNA and BPM. See <https://www.imf.org/-/media/Files/Data/Statistics/BPM6/CATT/C51-Statistical-Impact-Change-Treatment-Operating-Leases-Business-Accounting.ashx>

protection or secrecy will lead to less monopolistic power. The OECD Transfer Pricing Guidelines for MNEs and Tax Administrations (2017) also lists major risks associated with intellectual property such as R&D budget, lack of commercial success of the R&D outcome, patent infringement and litigation with competitors, and expensive lawsuits.

13. **The way the owner obtains the rewards from IPP is diverse.** As discussed above, the IPP may be used in the production of other goods and services and the return to the IPP capital depends on the commercial success of the output. Another way to obtain the rewards is granting other parties the right to use the IPP in their production processes for a fee. The next section looks at the various options through the lens of risks and rewards and the implications for the accounts.

14. **Option 1: The ultimate parent is deemed the economic owner of all IPP assets across the MNE group.** This option assumes that the parent is always the economic owner as it exercises some degree of control and ultimately receives the benefits (if not through the generation of income by production, then through direct investment income received from affiliates). Advocates state that the decision-making on R&D programs and budgets often take place at the parent level and, consequently, the risks are managed centrally. However, attributing all the IPP to the parent may be difficult to justify if the same is not said for tangible assets as currently the parent is not considered the economic owner of all tangible assets. This option also seems to ignore the growing globalization of R&D where affiliates conduct their own R&D to develop products for their local markets or pay into cost sharing agreements where they receive a portion of the benefit of the IPP asset for their participation, thus bearing risks and rewards for IPP assets.

15. **Many imputations would be required to attribute the IPP asset to the parent.** This would involve allocating the cross-border position and flow data of both the IPP assets and the associated financial liabilities to the parent. Monetary payments for the use of the IPP asset in one country would have to be rerouted as if they were being paid to the parent, with corresponding imputations made back to the affiliate by the parent to reflect payments for any associated services that may have been provided in relation to the IPP. The rerouting of value-added generated by the IPP to the country of the parent may distort other notions of economic reality. For example, taxes would continue to be paid in the jurisdiction of the affiliate, but the bulk of the taxable income would be recorded in the country of the parent, or asymmetries will likely occur if cross-border flows are not appropriately allocated.

16. **Option 2: The producer (originator) of the IPP is deemed the economic owner of the IPP asset.** Under this option the owner of the output cannot be different than the producer of the output. To be clear, the value-added in producing the original IPP (e.g., the performance of the R&D or creation of the software) will always be recorded in the producing country's GDP, but the subsequent transfer of legal ownership to the parent or another affiliated party (or parties) means that there will be, de facto, no further revenue (and observable transactions) accruing to the producer. In particular, dedicated R&D affiliates generally have no independent source of revenue, so their costs are paid by their parents, by allocations across all units, or by individual units for specific projects. It is difficult to justify the producer of the IPP—especially if conducted via a dedicated R&D affiliate—is the economic owner as it does not necessarily bear the risk of development (e.g., if the costs are paid by the parent or other units of the MNE) and is not directly receiving the subsequent benefit of receiving revenue generated from the IPP asset.

17. **Adopting Option 2 implies that there can be no imports and exports of R&D and software services (for both current production and previously produced IPP assets) between affiliates in**

international trade statistics.¹⁷ Similarly to the discussion under Option 1, any monetary payments for the use of the IPP asset in one country would have to be rerouted as if they were being paid to the unit that produced the IPP. This again may distort other notions of economic reality such as the jurisdiction where the taxable income is recognized and is paid and create asymmetries in the balance of payments if not properly recorded across economies.

18. **Option3: The unit that uses the IPP in productive activities is assigned the economic owner.** This option assumes that the economic owner of the IPP is any unit that makes use of the IPP directly or indirectly to produce goods and services. Since IPPs can be used simultaneously across different units of an MNE group, this may lead to a partitioning of the IPP asset among different users. Economically, this is an interesting option because it brings together production and the asset needed for the production. However, it is unclear whether there should always be a change of ownership of the underlying IPP asset or whether it can also be accounted for by payments for the right to use the IPP asset (i.e., there is no change in ownership of the underlying IPP asset).

19. **Compilers could partition the IPP asset using a formulary apportionment method.** Rassier and Koncz-Bruner (2015) reallocated MNE profits across various units of the MNE group based on compensation of employees and sales to non-affiliates. While the indicators used for apportionment do not necessarily correspond with use of the IPP in the production process, it is one way to try to proxy use of the IPP amongst units of the MNE group. Moulton and van de Ven (2018) point out that this alternative would allocate IPPs and related income to production facilities, for example an affiliate in China, even though the economic activities taking place there may be low-skilled labor assembling a final product.

20. **International tax rule changes and cost sharing agreements may help with showing IPP use.** Once the new measures become applicable, it is expected that profits will be reported where the economic activities that generate them are carried out and where value is created.¹⁸ As the guidelines are implemented (for example, the “double Irish” can no longer be used),¹⁹ MNEs may overhaul their global tax structure as a recent article in the newspaper indicated that a large MNE stopped the use of certain tax strategies.²⁰ However, it remains to be seen exactly how the new international tax rules will impact macroeconomic statistics, the new rules may bring about new innovative accounting transactions that leverage the parent-affiliate relationship.

¹⁷ This guidance note is focused on intra-MNE transaction. However, if this assumption is strictly followed, then there is no recognition that there can be sales or purchases of IPP (e.g., R&D and software) between two institutional units. This is clearly not the case where there are transactions between unaffiliated units. Therefore, if this option is adopted then there would be different rules depending on whether the units involved are affiliated or not.

¹⁸ The BEPS nexus approach requires a link between the income benefiting from the IP regime and the extent to which the taxpayer has undertaken the underlying R&D that generated the IP asset. See https://qdd.oecd.org/subject.aspx?Subject=IP_regimes

¹⁹ Irish tax legislation was amended effective from January 1, 2015, to prevent the incorporation of an Irish company which would be treated as tax resident in an “offshore” tax jurisdiction that did not have a Double Tax Treaty in place with Ireland. Effective January 1, 2021, the Irish tax rules will deem any Irish incorporated company as tax resident in Ireland, unless it is managed and controlled from a country within the EU or with which Ireland has a Double Tax Treaty in place.

²⁰ Irish Times, April 17, 2021—Google overhauled its global tax structure and consolidated its intellectual property holdings back to the United States in early 2020; see <https://www.irishtimes.com/business/technology/google-used-double-irish-to-shift-75-4bn-in-profits-out-of-ireland-1.4540519>

21. **Option 4: A more nuanced option based on the GMGP decision tree.** This option recognizes that assigning economic ownership to a unit depends on the scenarios under consideration and that a one-size-fits-all approach should not be taken. The starting point of the decision tree is the observation of IPP output or IPP ownership for a specific unit. The tree then follows a sequence of steps to determine economic ownership of the IPP, which the first step is to determine if the unit is part of an MNE group or not (see Annex IV). The next three steps are (i) whether the unit produced the IPP or not; (ii) what is the main kind of activity of the unit, which aims to identify the role of the IPP in the production process; and (iii) income and expenditure flows related to the use or sale of the IPP. On the basis of the answers to these questions, the decision tree should lead to a coherent decision on economic ownership of IPPs, the recording of capital formation, and the recording of IPP related services (imports/exports).

22. **Option 4 recognizes that there may be a mix of scenarios that essentially cover a range of recordings discussed in Options 1–3.** Changes in ownership mainly follow the type of monetary transaction observed (i.e., whether it is payment for the current production, payment for the previously produced IPP asset, or licensing the use of the IPP asset), but the guidance recognizes that it may be challenging to classify IPP related transactions properly. Therefore, each situation identified in the decision tree includes a default solution in case information is insufficient.

23. **SPEs controlled by nonresident parents are institutional units in the country in which they are located and may hold IPPs.** The first step in determining economic ownership is to consider if a unit is an institutional unit. The GMGP decision tree considers an SPE as an institutional unit and this is also the recommendation of *G.4 Treatment of Special Purpose Entities and Residency*. While the definition of an SPE is “a unit with little employment, ...and no or little physical production in the host economy”,²¹ in the case of an SPE that legally owns IPPs, there is production as the revenues generated for the rights to use the IPPs are considered services.²² In one sense, the SPE is receiving the reward of holding the IPP. However, it may be argued that the SPE does not have economic ownership as it is not involved with the development of the IPP, nor does it use it in the production of other (non-IPP) goods and services.

24. **The default solution in the GMGP decision tree assigns economic ownership of the IPP to the SPE, in correspondence with legal ownership.** This recommendation is also based on the view that it is impractical to reroute ownership of the IPP and the corresponding income flows from the legal owner to the economic owner. The TFLONA distinguishes SPE transactions outside the group they belong to and those that have only transactions within the group and recommend recording the transactions differently (see Annex VI for discussion). Lastly, on account of the international tax reforms and the requirements about economic substance, SPEs owning IPPs are likely to disappear or decrease. As the BEPS initiative requires a unit to have economic substance to hold IPP, this could lead to a situation where SPEs are replaced by units with “real” economic activity.²³

²¹ An SPE, resident in an economy, is a formally registered and/or incorporated legal entity recognized as an institutional unit, with no or little employment up to maximum of five employees, no or little physical presence, and no or little physical production in the host economy. See *G.4 Treatment of Special Purpose Entities and Residency* for full definition.

²² The revenues relate to produced assets and should therefore be regarded as services and not property income.

²³ The TFLONA discussion on SPEs owning IPPs is included in Annex V.

25. **Option 5: Intra-MNE cross-border transactions in previously produced IPP assets are considered as a type of securitized asset and recorded in the financial account of the national accounts and balance of payments.** If the R&D activities that resulted in the creation of these assets have already occurred in another country, viewing these highly mobile intangible assets that remain within an MNE group as being different in nature to R&D expenditure or the resulting patented asset might seem plausible. Treating this type of arrangement as a securitized asset would imply characteristics more akin to a financial asset. In this case, flows accruing to the securitized asset would be recorded as interest flows rather than services flows, normally earned on produced assets. However, a fundamental question is whether this approach can be justified as the acquired IPP assets may be involved in the production process of other non-IPP goods and services. As discussed in Connolly (2017), this would have implications for productivity measurement as the measure of capital services would be understated as the acquired IPP would be recorded as a financial asset instead of a capital asset.

SECTION IV: RECOMMENDED APPROACH—CONCEPTUAL ASPECTS

26. **The GZTT consultation revealed assigning economic ownership to a unit depends on the scenarios under consideration and that a one-size-fits-all approach should not be taken.** Assigning risks and rewards should be evaluated based on the underlying arrangement. The default solution of the parent as the economic owner of all IPP works on the intuition that it is closer to the concept of economic ownership than legal ownership, where a strong case can be made. However, not all cases of legal ownership by affiliates falls foul of the economic ownership criteria; in other words, an affiliate can take on the risks and rewards especially as shown with the cost sharing agreements. Furthermore, the default solution cannot be that the producer of the IPP is the economic owner as many dedicated R&D units do not bear the risk of development (e.g., if the costs are paid by the parent or other units of the MNE) and are not directly receiving the subsequent benefit. Thus, a more nuanced approach is required.

27. **The GZTT consultation supported the adoption of the *GMGP* Decision Tree for the determination of the economic owner of IPP across an MNE group.** The decision tree attempts to assign economic ownership of IPP to a unit within the MNE group. In essence, this is the “follow the money” principle. Under cost sharing agreements, this may lead to a portioning of the IPP asset.²⁴ Tax authorities are not just interested in the attribution of revenues but also have an incentive to ensure that costs are allocated to all of the units of an MNE group that benefit from the expenditure as the shifting of either costs or revenues affects the measurement of income and, thus, the tax bill. If so, these costs would be captured as international trade in services; presumably under R&D services however these could be misclassified (for example recorded under business services).

28. **The proposal to adopt the *GMGP* Decision Tree does not propose a change in the conceptual standards of assigning economic ownership based on risks and rewards.** The *GMGP* decision tree should rather be viewed as a tool to assist compilers in how to interpret risks and rewards in the case of IPPs.

29. **It is worth emphasizing that a stricter implementation of economic ownership in the accounts is not necessarily a panacea to perceptions of distortions to the accounts.** These

²⁴ The 2008 SNA allows for sharing of assets. See paragraphs 17.347 and 17.348.

perceptions can arise even if relocations of IPPs fully meet the criteria of economic ownership. For example, if an author of a book moves from one country to another and registers their legal rights in their new country of residence, economic and legal ownership have also been transferred, with value-added going up in one country and decreasing in another. In other words, improved guidance on determining economic ownership will not necessarily result in accounts that avoid significant increases in GDP and labor-productivity and significant changes in international trade flows that arise from relocations.²⁵ This is an important point as the goal is not to smooth out the statistics, so there are no big jumps, which is what some of the other options, such as apportioning across the units of the firm, would likely result in.

30. **Some GZTT members expressed reservations about attributing economic ownership of IPPs to an SPE.** One could view the services of a royalties and licensing (R&L) SPE more like an invoicing unit for the MNE group. Some argue that considering R&L SPEs as economic owner of the IPP is a deviation from the risks and rewards approach. However, in the countries which adhere to BEPS, pure R&L SPE for tax planning purposes are likely not to exist anymore in the future.

SECTION V: RECOMMENDED APPROACH—PRACTICAL ASPECTS

31. **Legal ownership of most previously produced IPPs can usually be identified from business accounts, even if it may require more information than is available in the public accounts of a company.** According to the International Accounting Standards (IAS) 38, an intangible asset is recognized and measured when it is (i) separately identifiable (e.g., a separable asset can be sold, transferred, licensed, etc.); (ii) probable that there will be future economic benefits from the asset; and (iii) the cost of the asset can be reliably measured.²⁶ The business accounting scope of what is considered as an intangible asset is narrower than the SNA concept of IPPs; therefore, much own-account production of R&D may not be capitalized in company business accounts and no asset is created on the balance sheet.²⁷

32. **The GMGP decision tree has been successfully validated by Italy, however more testing should be considered.** Using available data, the *GMGP* decision tree resulted in being able to identify the economic owner of IPP for more than two-thirds of enterprises tested (Annex V). For the non-treatable cases further engagement with the company—through a large case unit (LCU) or similar unit—may have resolved some or all of the unanswered questions in order to determine economic ownership. The *GMGP* also provides some case studies of how the decision tree was utilized which are reproduced in Annex VII.

²⁵ Moreover, in the same way that an IPP can be relocated from one country to another, so too can the headquarters, and, so too, allocating economic ownership to the parent is by no means a panacea to interpretation difficulties caused by relocations.

²⁶ <https://www.ifrs.org/issued-standards/list-of-standards/ias-38-intangible-assets/>

²⁷ In business accounting, research expenditure is recognized as an expense whereas development expenditure that meets specified criteria is recognized as the cost of an intangible asset. The *2008 SNA* paragraph 10.103 states that "In principle, R&D that does not provide an economic benefit to its owner does not constitute a fixed asset and should be treated as intermediate consumption. Unless the market value of the R&D is observed directly, it may, by convention, be valued at the sum of costs, including the cost of unsuccessful R&D."

SECTION VI: CHANGES REQUIRED TO THE 2008 SNA AND OTHER STATISTICAL DOMAINS

[Elaborate which parts of the 2008 SNA and BPM6 will be changed. (To be drafted at a later stage)]

Questions for Discussion:

- 1) *Do you agree that for previously produced IPP, the economic ownership (parent, producer, production affiliate) depends on the underlying arrangement and a default solution cannot be considered?*
- 2) *Do you agree with the GZTT majority support for the GMGP Decision Tree as useful for the determination of the economic owner of IPP across an MNE group?*
- 3) *With the BEPS requirement that substance is aligned with value creating activities, do you think that there may eventually be a greater coincidence of economic ownership and legal ownership than was the case previously (i.e., when the OECD Handbook on Intellectual Property Products was published in 2010)?*
- 4) *Do you agree that, in the case of an SPE holding IPP assets, the SPE is deemed the economic owner of the assets aligned with the GN G.4 “Treatment of SPEs and Residency” of the GZTT and as per the IMF’s “Operational Guidelines on SPEs”?*

Annex I. Referenced Documents

Connolly, Michael. 2017. "De-globalized GDP by using modified GNI and cross-border inter affiliate flows of Intellectual Property and the consequences for the SNA framework"

https://unstats.un.org/unsd/nationalaccount/aeg/2017/M11_3_4_Deglobalized_GDP_IP.pdf

Eurostat, *European System of Accounts 2010*. Available at <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-02-13-269> .

Eurostat, *Manual on Measuring Research and Development in ESA 2010*, 2014. Available at <http://ec.europa.eu/eurostat/documents/3859598/5937049/KS-GQ-14-004-EN.PDF/eed4dfe2-9b89-4c30-8c49-f6152912c1a7> .

Haan Mark de and Joseph Haynes "R&D capitalisation: where did we go wrong?" EURONA — Eurostat Review on National Accounts and Macroeconomic Indicators — Issue No 1/2018

<https://ec.europa.eu/eurostat/cros/system/files/euronaissue1-2018-article1.pdf>

International Monetary Fund, *Balance of Payments and International Investment Position Manual, Sixth Edition*, 2009. Available at <https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf> .

Moulton, Brent and Peter van de Ven "Addressing the Challenges of Globalization in National Accounts" National Bureau of Economic Research Conference on the Challenges of Globalization in the Measurement of National Accounts, 9 - 10 March 2018.

Organisation for Economic Co-operation and Development, *Handbook on Deriving Capital Measures of Intellectual Property Products*, 2010. Available at <http://www.oecd.org/sdd/na/44312350.pdf> .

Rassier, Dylan G. and Jennifer Koncz-Bruner. 2015. "A Formulary Approach for Attributing Measured Production to Foreign Affiliates of U.S. Parents" in *Measuring Globalization: Better Trade Statistics for Better Policy*, Susan N. Houseman and Michael Mandel, eds. W.E. Upjohn Institute for Employment Research. Available at https://upjohn.org/MEG/papers/Formulary_Apportionment.pdf .

United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, World Bank, *System of National Accounts (SNA) 2008*, New York, 2009. Available at <https://unstats.un.org/unsd/nationalaccount/docs/sna2008.pdf> .

United Nations Economic Commission for Europe, *Guide to Measuring Global Production*, 2015. Available at <http://www.unece.org/index.php?id=42106> .

United Nations Economic Commission for Europe, *The Impact of Globalization on National Accounts*, 2011. Available at https://unece.org/fileadmin/DAM/stats/groups/wggna/Guide_on_Impact_of_globalization_on_national_accounts_FINAL21122011.pdf .

Annex II. Extended Balance of Payments Services Classification (EBOPS) and Central Product Classification (CPC)

1. One of the most important sources for estimating international trade in services are surveys conducted in accordance with the *Manual on Statistics of International Trade in Services (MSITS)*. The 2010 edition of this manual, which is consistent with both the *2008 SNA* and *BPM6*, includes the Extended Balance of Payments Services Classification (EBOPS). The text below looks at the three main types of IPP (computer software and databases, research and development (R&D), entertainment, literary, and artistic originals) that are internationally traded. It is important to note that not all of the category of the import/export of these services is necessarily used to determine gross fixed capital formation (GFCF) and, in turn, the capital stock. This is because these services categories may include services that do not fit the definition of an asset in national accounts,²⁸ such as R&D testing services or software games.

Computer Software and Databases

2. For computer services, the *MSITS* recommends a further disaggregation into computer software services and other computer services. Computer software services includes software originals, software downloads, online games, and online software, whereas other computer services include services such as IT consulting and support services, IT design and development services for applications, and for networks and systems, etc.²⁹ If software is under a licensing arrangement, it depends on how the arrangement is set-up whether it is considered GFCF or not.³⁰ Therefore, it is not straightforward to determine what proportion of imports of computer services are allocated to GFCF. In addition, some products that are considered software GFCF may be physical products and be included in goods rather than services.

R&D

3. For R&D services, the *MSITS* recommends a further breakdown of research and development services into two subgroupings: work undertaken on a systematic basis to increase the stock of knowledge (reflecting the coverage of research and development within a *2008 SNA* context) and other. Charges for the use of proprietary rights or charges for licenses to reproduce and/or distribute the intellectual property are included in a separate category. Table 1 shows the EBOPS R&D categories mapped to the CPC categories.

²⁸ An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another. (*2008 SNA*, paragraph 3.30; *ESA 2010*, paragraph 7.15). All assets in the SNA are economic assets (*2008 SNA*, paragraph 3.31). The asset boundary for fixed assets consists of goods and services that are used in production for more than one year. (*2008 SNA*, paragraph 10.11).

²⁹ For concordance between EBOPS and CPC see <https://unstats.un.org/unsd/tradeserv/tfsits/msits2010/ebops2cpc.htm>

³⁰ Under certain conditions, licensing arrangements are considered as GFCF as paragraphs 10.99–10.100 of *2008 SNA* specify.

Table 1. EBOPS R&D Categories Mapped to CPC

EBOPS category	CPC category	Notes
Research and development services 10.1.1 Work undertaken on a systematic basis to increase the stock of knowledge		
10.1.1.1 Provision of customized and non-customized research and development services	R&D in natural sciences (811) R&D in social science and humanities Interdisciplinary R&D (813) Industrial design services (83912)	Covers sales/purchases of the R&D performed in the current period.
10.1.1.2 Sale of proprietary rights arising from research and development	Research and development originals (814) Design originals (8392)	Covers the change in economic ownership of the whole of the intellectual property right (IPR) in question. The seller no longer has any rights or obligations associated with the intellectual property. Includes second or subsequent outright sales of IPRs (i.e., a sales/purchases of the R&D originals).
10.1.2 Other R&D services	Technical testing and analysis services (8344)* - Partial CPC correspondence	In theory outside of the scope of the FM and SNA R&D definition, but may include some transactions that fit the definition. The principal correspondence of this CPC item is with scientific and other technical services (EBOPS 10.3.1.3) since these activities fall outside the boundary of Research and Development (covered in EBOPS 10.1.1 Work undertaken on a systematic basis to increase the stock of knowledge). However if there is reasonable evidence that some of these services will ultimately
8. Charges for the use of intellectual property, n.i.e.		
8.2 Licenses for the use of outcomes of research and development	Licensing services for the right to use R&D products (7333)	Payments made for the licences may be described in various ways, such as fees, commissions or royalties, but however they are described they are treated as payments for services rendered by the owner. This may or may not be recorded as GFCF by the licensee. It depends if it satisfies the national accounts asset criteria. (see footnote 13)

Source: Extended Balance of Payments Services Classification, 2010, *BPM6*, and correspondence with CPC classification https://unstats.un.org/unsd/tradeserv/tfsits/msits2010/ebops2cpc_detailed.htm#ebops10

Entertainment, Literary and Artistic Originals

4. As is the case for software, the breakdown for required to facilitate supply-based estimates of GFCF are similar. A separate category of licenses to reproduce and/or distribute audiovisual products.

Annex III. BEPS and Transfer Pricing

1. Action 8 of the BEPS Action Plan mandated the development of transfer pricing rules or special measures for transfers of hard-to-value intangibles aimed at preventing base erosion and profit shifting by moving intangibles among group members. This means data can be already available regarding the IPP assets owned by a resident MNE. The BEPS reporting will also be a valuable data source for National Statistical Institute (NSI) compilers for these IPP assets. The use of BEPS data for statistical purposes is mandated in addition to its use for taxation purposes.
2. The primary objective being to determine whether the entity acquiring the IPP has substance. However, there are practical considerations associated with this attribution.
3. Recent experiences, particularly in the European Statistical System,³¹ suggest that the transactions in IPP within MNE groups are identified by the statistical compiler. Also, given the size of these transactions, the symmetric recording by the counterpart NSI also occurs. These intra-MNE transactions are also widely reported and recent reporting relating to a particularly large MNE reported in the media is a case in point.³²
4. Another feature of BEPS relates to valuation of IPP transactions in the hard-to-value intangibles (HTVI) guidelines, so that for fiscal authorities, a reasonable value is attributed to these transactions. Ultimately, it is perhaps too much to ask of a statistical compiler to separately value these IPP assets and they have to rely on the reported transactions unless there are very obvious discrepancies in valuation between the compiler and the company.
5. These transfer pricing rules, which are used for tax purposes, are concerned with determining the conditions, including the price, for transactions within an MNE group resulting in the allocation of profits to companies across the group in different countries. In this regard, based on the arm's length principle, transactions between associated enterprises should be priced as if the enterprises were independent, operating at arm's length and engaging in comparable transactions under similar conditions and economic circumstances.
6. Once again, these developments in international tax policy have major implications for statistical compilers where transactions are to be valued at market prices.
7. The arm's length principle has proven useful as a practical and balanced standard for tax administrations and taxpayers to evaluate transfer prices between associated enterprises, and to prevent double taxation. However, with its perceived emphasis on contractual allocations of functions, assets, and risks, the existing guidance on the application of the principle has also proven vulnerable to manipulation. This manipulation can lead to outcomes which do not correspond to the value created through the underlying economic activity carried out by the members of an MNE group.

³¹ Eurostat GNI MNE Pilot—for further information, see https://www.oecd.org/iaos2018/programme/IAOS-OECD2018_Alajaasko-Bujnowski-Marola.pdf

³² Irish Times, April 17, 2021—Google overhauled its global tax structure and consolidated its intellectual property holdings back to the United States in early 2020: <https://www.irishtimes.com/business/technology/google-used-double-irish-to-shift-75-4bn-in-profits-out-of-ireland-1.4540519>

8. This situation has been evolving since the first Transfer Pricing Guidelines were issued by OECD in 2010. Subsequently, a second set of Recommendations were issued in 2017 with the most recent guidance issued in 2020.³³ A key principle of these recommendations requires that transactions between affiliated entities in an MNE are on an arms-length basis or in other words on the same basis as would prevail between unconnected entities transacting on the same basis.

9. As has been outlined earlier, in many countries, the OECD recommendations are embedded in national legislation giving the framework greater status than simply recommendations. These recommendations will probably also allow for the use of this data for statistical purposes.³⁴

³³ OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2017 and <https://www.oecd.org/tax/transfer-pricing/oecd-publishes-information-on-the-state-of-implementation-of-the-hard-to-value-intangibles-approach-by-members-of-the-inclusive-framework-on-beps.htm>

³⁴ <https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-on-beps-progress-report-july-2019-july-2020.htm> - See section 4.1 Anonymized and Aggregated country by country reporting statistics

Annex IV. United Nations Economic Commission for Europe (UNECE) *Guide to Measuring Global Production Decision Tree*

1. In order to identify the economic owner of IPP assets requires answers to the following questions:
 - Did a transaction occur between affiliates in the MNE group to acquire a previously produced IPP asset?
 - Is the receiving entity an Institutional Unit in the economy?
 - Is the IPP directly engaged with production³⁵ or is it the producer of the IPP?
 - Does the entity receive income related to the IPP or pay royalties for its use?
2. If a unit is the producer of the IPP, then it is considered the economic owner of the IPP unless there is evidence that it (i) does not receive any revenue from leveraging the IPP (through income received from royalties and licensing fees or sales of products that embed the IPP) or (ii) there is an observed monetary transaction of compensation for the IPP development or the sale of the previously produced IPP (IPP original).
3. If the unit did not produce the IPP, then it is only considered the economic owner of the IPP if (i) the output of the unit is IPP related, and it receives revenue through royalties and licensing fees, or (ii) there is an observed monetary transaction to purchase the IPP original.
4. The figure below is Figure 4.1 from *GMGP*. The full figure is not reproduced here, only the portion that shows the determination for a unit that is part of an MNE.

³⁵ Either directly or indirectly through contract manufacturing arrangements.

Figure 1. Decision Tree for Determining Economic Ownership of an IPP Observed in Global Production

Control/ownership of unit	Production of the IPP	Type of producer	Income and expenditure related to the IPP	Decision about economic ownership of the IPP	Related decisions
1. The unit is part of a multinational enterprise (MNE)	1.1 The unit produced the IPP	1.1.1. The unit is a main producer of other (non IPP) goods and services and is expected to use the IPP in its production process	1.1.1 The unit may, or may not, receive funding from the parent as compensation for IPP development costs but this aspect is not decisive.	Attribute by default economic ownership of the IPP to this unit	The IPP is by convention recorded on the balance sheet of this unit, even when other member units of the MNE may benefit from the IPP.
			1.1.2. The unit does not receive income from royalties or licences to use, but either receives compensation for IPP development from the parent or sells the IPP originals to the parent.	Do not attribute economic ownership to the unit. This unit serves as a dedicated IPP producer for the benefit of the MNE as a whole.	Do not record the IPP as fixed capital formation of the unit. Instead record the developed IPP as export to the (foreign) MNE parent. Reported sales of IPP originals may show up in international trade in services statistics.
		1.1.2. The unit is a main IPP producer.			
			1.1.2.2. The unit receives income from royalties or licences to use, or does not receive any compensation for IPP development from the parent, so it can be assumed that it is expected to obtain income from royalties and licences to use in the near future.	Attribute economic ownership to the unit. The unit functions as a dedicated IPP producer with income from units outside the MNE from the IPPs produced.	The IPP is recorded as fixed capital formation of the unit.
			1.2.1.1. The unit pays royalties or licences to use.	The unit does not own the IPP	Do not record the IPP as fixed capital formation of the unit. IPP service payments to foreign suppliers are recorded as import of IPP services (or royalties).
		1.2.1. The unit is a main producer of other (non IPP) goods and services and may use the IPP in production			
			1.2.1.2 The unit purchased the IPP original for use in production	Attribute economic ownership of the IPP to the unit	The IPP is fixed capital formation of the unit. If purchased from abroad register an import of the IPP (original)
			1.2.1.3. No IPP related payments are being observed. IPP use may be indirectly observed based on the nature of the production process (with usually high IPP requirements) and above average returns to capital.	The MNE parent is expected to be the economic owner and supplier of the IPPs used in production.	Conceptually, an imported IPP service flow should be recorded. But this is not an easy task (and not without risks) as the nature and size of these flows are principally unknown. Such imputations of imports/exports should preferably be the outcome of a concerted action in which all NSIs involved join efforts in filling in the IPP flows between the member units of an MNE.
		1.2. The unit did not produce the IPP			
			1.2.2. The unit is not a producer of other (non IPP) goods and services. Its main output is IPP related.	1.2.2. Purchase of the IPP from the parent and income from royalties and licences to use may, or may not, be observed.	The unit is assumed to have purchased the IPP (original) from the parent and to receive (on behalf of the parent) income from royalties or licences to use the IPP. Attribute economic ownership of the IPP to the unit. The unit is considered an IPP holding SPE providing its services to the MNE parent.

Annex V. Italian Experience on Identification of Economic Ownership Trough Decision Tree UNECE GMGP

1. In 2018, Italy carried out a pilot exercise on the identification of ownership of IPPs, by applying the decision tree provided in UNECE *GMGP*, limited to enterprises belonging to MNE groups.

2. To practically apply the decision tree, first it was necessary to collect available data that could support the identification of the ownership of IPPs. The following statistical and administrative sources were identified:

- Business Register of Enterprise Groups: statistical database of all groups of enterprises, including MNEs.
- Survey on enterprise accounting system: a census survey of enterprises, with at least 100 persons employed. It collects data on profit-and-loss accounts and (partly) balance sheets, together with other relevant variables. Since year 2016, a new set of questions referring to Intellectual Property (IP Form) has been introduced.
- Statistical survey on research and development.
- Database of financial statements of corporate enterprises.
- Financial statements of Chamber of Commerce.
- Italian Regional Tax on Production Activities.

3. For the pilot exercise, a new database was created by linking and combining all data sources at the enterprise level (micro linking procedure).

4. Based on the available data, a test was set up, in the form of an initial decision tree: each leaf node contains questions or criteria to be answered; each branch shows the flow from question to answer; the final leaf carries the decision about the ownership of IPPs:

-node0: control/ownership of the unit;

-node1: production of the IPP;

-node2: type of producer;

-node3: use of IPP;

-node4.1: income from royalties;

-node4.2: payment of royalties;

-node5: compensation for IPP development;

-node6: sale of IPP originals;

-node7: purchase of IPP originals.

5. To answer these questions, information gathered from data sources were appropriately selected. The companies to be tested were selected on the basis of their dimension (number of persons

employed). Total active enterprises in the Statistical Business Register are about 4.4 million in 2016; of them 414 thousand belong to enterprise groups, while 111 thousand to MNE groups. Only 2,736 MNE groups have at least one enterprise with more than 100 persons employed.

6. As a result, enterprises suitable for the study were 3,805, with the following characteristics:

- classified in Business register of Enterprise Groups;
- with at least 100 persons employed;
- have answered to R&D Survey or/and Survey on enterprise accounting system;
- have asked for a fiscal deduction for research-related employment in the Regional income tax register.

7. The application of the UNECE decision tree resulted in the following: 68.8 percent of the enterprises was the owner of IPP, only 8.6 percent was not the owner, and the 22.6 percent were non-treatable cases.

8. To check the results of the initial test, a set of enterprises were selected (for each branch the most relevant units in terms of persons employed were chosen). The analysis was carried out by verifying the information gathered from the data sources with the data reported in the financial statement, management report, and web site information.

9. In our view, the first difficulty in the exercise stems from the way we decided to use the decision tree: it seems to us that it is most suitable as a guiding tool for supporting analysis carried out through a case study performed on single enterprises, then to be used in a deterministic way, as we did.

10. In fact, for some branches using the decision tree in a deterministic way made it necessary to prioritize the characteristics taken into account when a node contains more than one of them. An example is provided by the node 1.1.2.: in order to select sub node 1.1.2.1 (not economic owner) or sub node 1.1.2.2 (economic owner), we choose as main characteristic “if the unit sells IPP originals to the parent”, then as second characteristic “if the unit receives income from royalties or license to use” or “if the unit receives any compensation for IPP development”.

11. Some further branches should be added to the tree to allow intercepting those units whose features are not clear enough and that must be taken under observation in the future. Node 1.1.2 was split in 1.1.2.1, 1.1.2.2, and 1.1.2.3 for main IPP producer units that do not receive income from royalties or license to use, do not receive any compensation for IPP development, nor sell any IPP. In this case, the UNECE guidelines allow to decide that the unit has economic ownership of IPP by convention, but this cannot be taken for granted in the future, so that such units should be taken under observation.

12. Other evidence that emerged from our exercise are the following:

- (i) in order to apply some rules of the decision tree, qualitative information appeared to be necessary that could only be gathered through a direct contact with the enterprises;
- (ii) specific information obtained was difficult to be standardized or used in a deterministic way, as we tried to do in the pilot exercise;
- (iii) in some cases, it was difficult to find sound data for all the tested enterprises.

13. An example of Point (i) is node 1.2.1.3 “*No IPP related payments are being observed. IPP use may be indirectly observed based on the nature of the production process (with usually high IPP requirements) and above average returns to capital*”. In our opinion, basing the decision of the ownership of IPP just on the nature of the production process could be misleading; a verification through a direct contact with the enterprise could be needed.

14. As for Point (ii), for example, it was not possible to go through the path to node 1.2.2 because of lack of information on Royal and Licensing Companies (R&L companies), a particular type of SPEs.

15. Finally, concerning Point (iii), the 22.6 percent of non-treatable units show inconsistencies among sources or within the same source. In addition to possible errors, this may be attributable to several factors: (i) the questions in the new IPP form referring to Intellectual Property, introduced in the survey on enterprise accounting system, were new to the compilers, who possibly could have misinterpreted them; (ii) in the enterprise, different persons were in charge to answer the different questionnaires; (iii) questions were not clear enough; and (iv) questionnaires were too long.

16. On the basis of the described experience, we plan to carry on the research on the identification of IPPs ownership focusing on a smaller sample of enterprises and introducing a direct contact with the MNEs.

Annex VI. Joint Eurostat-OECD Task Force on Land and other Non-financial Assets (TFLONA) Report on Intellectual Property Products

SPEs Owning IPPs

1. An SPE (legally) owning IPPs is different from other SPEs. SPEs normally have no productive activities, but in case an SPE owns IPPs, these IPPs can “produce” services. In that case, the revenues relate to produced assets and should therefore be regarded as service and not property income. In general, the term royalty and licensing (R&L) companies is used. However, there may sometimes be confusion about their specific names and labels. Some companies with “real” activities regarding the IPP (for example research and development activities) are sometimes labeled R&L companies, whereas they are actually no SPE and should be recorded according to the SNA rules as “standard” corporations. Furthermore, the term R&L companies may be used for SPEs that do not own IPPs, but which are most likely invoicing units or another form of a conduit. These units are left out of consideration here.
2. The general rule for SPEs is that entities with little or no physical presence are to be classified as institutional units when they are not resident in the same country as their parent, whereas those that are resident in the same country should be consolidated with their parent. In case of SPEs owning IPPs, one can distinguish SPEs that have transactions outside the group they belong to and those that have only transactions within the group.
3. If the SPE concerned has transactions outside the group it belongs to, the agreed treatment is to apply the “margin” concept. When the entity acts a conduit for R&L payments (i.e., receives and transfers large gross sums), the “revenues” should be seen in net terms. When it has revenues but does not have corresponding R&L payments, then the “revenues” should be seen in “gross” terms (and feed into the operating surplus of the SPE).
4. If the SPE concerned has only transactions within the group it belongs to, the agreed approach is to calculate output as the sum of costs.³⁶ Application of the sum of costs method would mean, in case of an SPE owning IPPs, including potentially substantial amounts of consumption of fixed capital (with relevant impact on GDP and GNI). Of course, especially in case of SPEs having only transactions within the group they belong to, it could be questioned if these units are the economic owner of the IPPs concerned. In the current guidelines (UNECE *GMGP*), the default solution is assigning economic ownership of the IPP concerned to these SPEs, in correspondence with legal ownership. Rerouting of ownership, and corresponding income flows, from the legal to the economic owner is not recommended (see paragraph 4.38 of the UNECE *GMGP*), as it would require a lot of imputations which will need to be based on various assumptions.³⁷
5. Allocating economic ownership of the IPPs concerned (where legal ownership is in the country under consideration) to the rest of the world would need justification of that approach, as well as demonstration of the consistency with the relevant other country’s recording of these IPPs in their national

³⁶ Though this is noted to be in contradiction with the approach recommended by the EU (GNI) Task Force on the Recording of Certain Activities of Multinationals in National Accounts (2009), which had a margin concept for all R&L SPEs.

³⁷ Because of the potential impact on GDP, the guide recommends publishing figures on the importance of R&L companies to assist users in properly understanding the figures.

accounts (i.e., the assets must be recorded somewhere). It is recognized that the allocation of legal and economic ownership over IPPs is a difficult issue in practice and practical implementation is still under discussion in relevant fora. However, it needs to be assured the IPPs are recorded somewhere. Moreover, for many other (“regular”) institutional units owning IPPs and being part of an MNE group, one could ask the same question regarding economic ownership (i.e., considering assigning the ownership to the parent company). In this respect, the issue at hand is very much related to the above discussion on the economic ownership of IPPs, and there seems to be no reason to treat SPEs differently compared to “regular” institutional units apart from SPEs often being brass plat types of units having no productive activities and no physical presence.

Annex VII. Case Studies

1. The *GMGP* (Chapter 4, page 53) provides two country case studies that use the decision tree to determine the economic ownership in real cases.

Country Case Study 1: Intra-Group Supply of R&D (1)

2. R&D centre “Comp” in domestic Country A, is a subsidiary of a multinational “Multicomp” with a parent in Country B and other subsidiaries in countries C and D. Comp engages only in R&D production and has developed a prototype of a new kind of computer chip “ChipM”. The business accounts indicate that Comp received financing of all costs of development from the parent in Country B. This indicates that the development of ChipM has been financed by the parent of Multicomp. It is assumed that as soon as the prototype is finalized, ChipM will be patented in the name of Multicomp. At that moment, the subsidiaries in countries C and D will start producing computers containing ChipM components. Comp in Country A corresponds to case 1.1.2.1 in the decision tree in Figure 1 (Annex III). Comp’s output, the design of ChipM, is sold to the parent of Multicomp in Country B. Irrespective of the method of finance, the transaction between Comp and the parent represents a purchase of an IPP. The production of the ChipM design leads to the generation of income in the accounts of Comp and related profits must be reported by Comp to the tax authorities of Country A. The net profits will flow back to the parent of Multicomp as (un)distributed dividends on FDI. The point of view of Multicomp is reflected by case 1.2.1.2. The financing of ChipM should be registered as import of an IPP, leading to gross fixed capital formation in the balance sheets of Multicomp’s parent in Country B. No transfers of IPPs will be recorded to the subsidiaries in countries C and D. The IPPs will remain unobserved in those countries and no IPP related transactions need to be recorded.

Country Case Study 2: Intra-Group Supply of R&D (2)

3. “SwiftC” is a very small company in Country A with very few employees. SwiftC is the subsidiary of an MNE “Bigcomp” with headquarters in Country B. SwiftC appears the legal owner of patented software named “SoftPat” and obtains royalty payments from two subsidiaries of Bigcomp operating their production activities in countries C and D. Both subsidiaries use SoftPat in their manufacturing activities. SwiftC is not engaged in the development of software or any other production activities. The decision tree in Figure 1 (Annex III) points out that SwiftC is according to case 1.2.2 a brass plate company. Following related recommendations SwiftC will be considered to owner of the IPP but for analytical purposes all income and expenditure linked to SoftPat should preferably be registered separately. The situation of headquarters in Country B may not differ very much by the rerouting of IPP related income via SwiftC. Without existence of SwiftC, IPP related income would probably be obtained directly from the subsidiaries engaged in manufacturing in countries C and D.

Additional Case Study

4. The IPP does not originate from the research activities of MNE only but is instead the outcome of joint research where both parties retain control of aspects of product research and development. Such cases are usually governed by a collaboration agreement where the contributions and benefits of the collaborating entities are specified. In these cases, there are a number of economic owners and it may be difficult to identify economic ownership. For example, this type of arrangement may apply with the recent successful COVID-19 vaccines which entailed partnerships between Big pharma companies and

research-oriented University campus companies or similar entities. In these cases, the pharmaceutical company provided the manufacturing know-how and Research company provided the product development at least. This scenario simply complicates the picture presented as we have IPP that is co-owned, although one of the owners is a third party rather than an affiliate in the MNE group. The inclusion of this scenario is because the joint ownership of the IPP means that the MNE parent is unlikely to be the sole economic owner.