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## **Transfer Pricing Rules for Intangibles: Implementation and Practical Challenges**

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# Transfer Pricing Rules for Intangibles: Implementation and Practical Challenges\*

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**Abstract:** This study analyzes the main characteristics of transfer pricing rules related to intangible assets based on OECD Transfer Pricing Guidelines. I examine the definition of intangibles under OECD Guidelines, explain value-adding functions, and elucidate how profits can be distributed among entities of multinational firms based on these functions. Furthermore, I describe the OECD approach for hard-to-value tangibles (HTVI). I exploit data on the implementation of the main characteristics of OECD transfer pricing rules related to intangibles in 58 countries and elaborate on regulatory differences. The analysis illustrates that inconsistencies can be observed in the implementation of OECD Transfer Pricing Guidelines for intangibles across countries. Furthermore, developed and developing countries exhibit a similar pattern in implementing transfer pricing rules related to intangibles in their domestic legislation. Additionally, practical challenges regarding the adoption of the OECD Transfer Pricing Guidelines for intangibles are outlined. Among other practical issues, onerous documentation requirements, the risk of disputes, and double taxation are the main challenges in implementing transfer pricing rules for intangibles.

**Keywords:** Transfer pricing, Intangibles, MNE

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## 1. Introduction

This study reviews the main characteristics of transfer pricing rules related to intangibles based on the OECD Transfer Pricing Guidelines. In particular, I analyze the implementation of transfer pricing rules for transactions involving intangibles across countries and elaborate on the practical challenges of implementing these rules. Closely observing the magnitude of disputes in publicized international tax disputes demonstrates the crucial role of intangible assets (e.g., Apple, Starbucks, Nike, Amazon, and Coca-Cola).<sup>1</sup> This role stems from the fact that multinational enterprises (MNE) can move intangibles and their associated income to low-tax countries, thereby significantly reducing their tax burden (Dischinger & Riedel, 2011; Griffith et al., 2014; Grubert, 2003). Additionally, Taylor et al. (2015) provide evidence for this behavior by firms, identifying an association between multinationalism, the use of tax havens, and intangible assets with firms' transfer pricing aggressiveness.

In response to tax revenue loss triggered by MNEs' tax planning strategies, recent tax policy initiatives, such as the OECD Action Plan on Base Erosion and Profit Shifting (BEPS) and the Platform for Collaboration on Tax (IMF; OECD; UN; WBG, 2017) address key issues related to the shifting of intangibles. These initiatives provide guidance to align and strengthen the link between economic activity and value creation to ensure that profits are taxed where economic activities occur (OECD, 2013).

The core concept of the OECD Transfer Pricing Guidelines for the appropriate pricing of transactions between related affiliates is the arm's length principle, which is legally reflected in several national tax laws and double tax treaties (Article 9 of the OECD Model Tax Convention). This principle requires that the transfer price between related affiliates be the same as

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<sup>1</sup> A recent case is the state aid challenge by the European Commission against Apple. The European Commission appealed the General Court's judgment on Apple's state aid case in Ireland on 25 September 2020. The amount challenged by the European Commission is more than \$13 billion (Chee, 2019); see also White (2021).

that unrelated affiliates would agree upon under comparable conditions (OECD, 2017). Determining the transfer price requires comparable information for assessing the MNEs transfer price. However, considering that intangible assets are firm-specific in nature, and comparable transactions are often unavailable for these transactions, determining an appropriate arm's length price is challenging (Desai et al., 2006).

The legal framework for determining transfer pricing related to intangibles is provided in Chapter VI of the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administration (OECD, 2022b). The OECD has undertaken substantial efforts to align transfer pricing outcomes with value creation in the area of intangibles and has provided supplemental guidance for determining arm's length conditions for transactions involving intangibles, which are followed by numerous countries. However, significant differences exist across countries pertaining to the implementation of these transfer pricing guidelines for intangibles. Understanding the implications of differences in transfer pricing rules across countries is important to fight base erosion and profit shifting and to reduce the risk of double taxation.

The objective of this study is, in a first step, to present and provide an overview of the three main characteristics of OECD Transfer Pricing Guidelines regarding intangible assets. First, I discuss what is understood by the concept of intangibles according to OECD Transfer Pricing Guidelines. Furthermore, I examine the role of legal ownership by considering the importance of functions, assets, and risks in the allocation of profits based on Development, Enhancement, Maintenance, Protection, and Exploitation (DEMPE) functions. According to the OECD, the legal ownership of intangibles is no longer sufficient to allocate a substantial amount, or even the group's residual profit, to the legal owner. To allocate a risk-bearing profit to the legal owner of intangible assets, the so-called DEMPE functions of intangibles are crucial, wherein a distinction is made between the legal and economic ownership of intangibles from a transfer pricing perspective. Finally, the HTVI approach adopted by the OECD in the Transfer Pricing

Guidelines in 2017 is described. This approach addresses the negative effects of information asymmetry by providing tax administrations with a useful tool when assessing transactions involving intangibles for which the valuation is highly uncertain (Rodríguez Peña, 2020).

In a second step, this study exploits data on the implementation of the main characteristics of transfer pricing rules related to intangibles in 58 countries and discusses the differences in regulatory characteristics as well as the heterogeneity in the implementation of these rules. Furthermore, this study provides an overview of the implementation of transfer pricing rules for intangibles in developed and developing countries since the OECD and UN emphasize the importance of the inclusion of developing countries for the consistency of transfer pricing rules and to avoid a multiplicity of approaches, which can lead to compliance burdens and the risk of unrelieved double taxation. Finally, practical challenges concerning the adoption of OECD Guidelines regarding the transfer-pricing aspect of intangibles are elaborated.

The analysis reveals that approximately 27 countries in the sample implemented transfer pricing rules for intangible assets in their domestic legislation, while only 11 countries adopted the HTVI approach in their domestic legislation. Nevertheless, most countries in the sample follow the DEMPE approach for allocating intangible returns to multinational firm entities. The supplementary analysis suggests a significant variation in the implementation of transfer pricing rules for intangibles across countries. While some developed countries, such as Germany and the USA, have fully adopted the main features of OECD transfer pricing rules in their domestic legislation, other countries, such as Brazil, Switzerland, and Panama, have not yet implemented any features of transfer pricing rules for intangibles in their domestic legislation. Moreover, developed and developing countries exhibit a similar pattern in implementing transfer pricing rules regarding intangibles in their domestic regulations and aligning themselves to OECD Transfer Pricing Guidelines with support from various initiatives under the OECD and the UN. However, major concerns regarding the adoption of transfer pricing rules for intangibles in

developing countries are the unavailability of data and lack of expert skills (UN, 2021).

Furthermore, inconsistencies in the implementation of intangible aspects of transfer pricing rules can be observed. The first issue relates to the definition of intangibles in countries' domestic legislation. Some countries clearly define intangible assets for transfer pricing purposes (e.g., the UK, USA); however, others do not precisely define intangible assets and do not clearly explain whether the definition of intangibles differs from the legal and accounting definitions for transfer pricing (e.g., France, the Netherlands). The second issue concerns the peculiarities of transfer pricing rules related to intangibles in some countries. For example, Chinese tax authorities conduct a six-function (DEMPEP) analysis instead of DEMPE when assessing the profit allocation of intangible income, which include a final "P" for promotion (Chi et al., 2015).

Inconsistencies in transfer pricing rules related to intangibles may decrease the expected tax liabilities for taxpayers who engage in substantial income shifting, and in turn, they can cause more aggressive auditing by tax authorities (De Waegenaere et al., 2006). However, inconsistencies do not affect countries uniformly. The theoretical work by Diller et al. (2021) suggests that low-tax countries benefit from consistency under specific conditions, whereas high-tax countries benefit from inconsistency. Additionally, inconsistencies can increase tax disputes, which incur significant costs for tax authorities and taxpayers (UN, 2021).

This study also addresses practical issues related to the implementation of transfer pricing rules for intangibles. The practical issues concerning the DEMPE functions of intangibles discussed in the literature include the complexity of identifying contributors to DEMPE functions when several departments of an MNE in several countries are engaged in DEMPE functions (Greinert et al., 2020; Paumier, 2020; Verlinden et al., 2019), onerous documentation requirements to support functional analysis (Austin et al., 2021; Chand & Lembo, 2020; Verlinden et al., 2019), and the risk of transfer pricing disputes between taxpayers and tax authorities and the risk of

double taxation (Greinert et al., 2020; Heggmaier, 2017; Musselli & Musselli, 2017). These issues are particularly challenging for the pharmaceutical industry because the development of a new drug usually requires the involvement of several group companies and third parties (Vallat, 2020). The main issue concerning HTVI, addressed in prior literature, is the incompatibility of the HTVI approach with the arm's length principle (Hagelin, 2019; Penelle, 2017; Rodríguez Peña, 2020). The underlying reasons for this incompatibility with the arm's length principle are the use of hindsight by tax authorities, transactional adjustment if the taxpayer cannot rebut the presumptive evidence, and shifting of the burden of proof to taxpayers.

This study's contribution to the literature on transfer pricing rules is twofold. First, I build on previous studies that examine the key differences in transfer pricing rules across countries (Marques & Pinho, 2016; Rathke et al., 2020; Zinn et al., 2014) and comprehensively analyze the implementation of transfer pricing rules related to intangibles across countries. Furthermore, existing studies examining the association between transfer pricing rules and profit-shifting activities of MNEs via intangibles find limited or no effect of transfer pricing rules on the profit-shifting of intangibles (Baumann et al., 2020; Beer & Loeprick, 2015; Marques & Pinho, 2016). These studies neglect the role of transfer-pricing rules for intangible assets. For example, Beer and Loeprick (2015) considered introduction of the documentation requirement for transfer pricing at the national level as a measure for enforcing transfer pricing provisions; further, Baumann et al. (2020) employed the transfer pricing measure of Mescall and Klassen (2018), which does not include any component specifically related explicitly to the transfer pricing of intangibles. To investigate the effect of transfer pricing rules on the profit-shifting activities of MNEs via intangibles, including transfer pricing rules related to intangibles is necessary for obtaining reliable results.

Second, I contribute to the literature on transfer pricing inconsistencies (De Waegenaere et al.,

2006; Diller et al., 2021) by examining the implementation of transfer pricing rules for intangibility across countries to identify the inconsistencies and their implications for firms. Moreover, I offer practical implications by solving regulatory mismatches and eliminating blind spots in transfer-pricing rules regarding intangibles.

## **2. Background and Development of Transfer Pricing Rules**

### ***2.1. Tax Planning Strategies and Intangibles***

The changing nature of the global economy and digitalization draws attention to the novel role of intangible capital as a new source of growth and innovation. Intangibles are critical for productivity and economic growth (e.g., Pece et al., 2015; Thum-Thysen et al., 2017). For example, the contribution of total intangible assets to output growth in the EU-15 is one to three times higher than that of tangible assets (Thum-Thysen et al., 2017). The business models of multinational firms have changed significantly and rely heavily on intangible assets. Figure 1 illustrates the investment and capital by assets in the 40 countries from 2011 to 2021 to depict the main drivers of GDP and productivity growth. The Figure 1 reveals that the average investment in intangible assets grows faster than in tangible assets.<sup>2</sup>

<Insert Figure 1 about here>

Prior literature has unambiguously documented an association between firms' intellectual property and profit-shifting behavior from high-tax jurisdictions to low-tax jurisdictions (Dischinger & Riedel, 2011; Griffith et al., 2014; Grubert, 2003). For example, Dischinger and Riedel (2011) and Karkinsky and Riedel (2012) demonstrate that the location of intangibles is biased toward low-tax affiliates, and a high corporate tax rate negatively impacts intangible

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<sup>2</sup> The data is derived from OECD (2022a), and assets type in the indicator include dwellings (excluding land); other buildings and structures (roads, bridges, airfields, dams, etc.); transport equipment (ships, trains, aircraft, etc.); cultivated biological resources (managed forests, livestock raised for milk production, etc.); and intellectual property products (such as R&D, mineral exploration, software and databases, and literary and artistic originals, etc.); and information and communication technology (ICT) equipment (computer software and databases, telecommunications equipment and computer hardware). The intangible assets contain intellectual property products and ICT. The other four assets type are coded as tangible assets.



investment as well as the number of patent applications. Similarly, Griffith et al. (2014) find that MNEs strategically locate patents in low-tax rate jurisdictions. De Simone et al. (2019) use IRS data to construct a measure of income shifting and indicate that firms in high-tech industries shift income out of the United States more successfully than firms in other industries. Consistent with these findings, Amberger and Osswald (2020) find, using detailed data on patent owners, that patent concentration is positively related to tax-motivated income shifting. This relation stems from increasing asymmetric information between the MNEs and local tax authority by reducing comparable information available to the tax authorities.

The role of transfer pricing as a dominant channel for profit shifting has been highlighted in the literature (e.g., Heckemeyer & Overesch, 2017). The use of intangibles creates opportunities for strategic mispricing of intra-firm trade because intangible assets are firm-specific in nature, and thus, the arm's length principle is difficult to obtain (see, e.g., Desai et al., 2006; Grubert, 2003). Several empirical studies' findings have supported this notion. Liu et al. (2017) report that tax-motivated transfer mispricing is increasing for R&D-intensive firms. Hebous and Johannesen (2021) use unique firm-level data on multinational firms in Germany and provide evidence that tax-induced mispricing of trade in services is related to intellectual property. While transfer pricing rules effectively reduce firms' income-shifting activities (e.g., Beer & Loeprick, 2015; Lohse & Riedel, 2013; Marques & Pinho, 2016), recent research suggests that they exert no damping effect on shifting activities related to intangibles. For instance, Beer and Loeprick (2015) investigate the impact of transfer pricing documentation requirements on firms' profit-shifting activities using a sample of firms from 2006 to 2011. They illustrate that profit shifting among subsidiaries is significantly reduced after the introduction of transfer pricing documentation, whereas it exerts no significant negative impact on subsidiaries with a high intangible endowment. Baumann et al. (2020) explored the effectiveness of anti-avoidance leg-

islation (CFC rules and transfer pricing rules) in restricting income shifting through patent locations. Their findings reveal that CFC laws can hinder patent holdings in tax-haven economies; however, transfer pricing rules exhibit a relatively weak impact on the location of patent ownership. The sketched findings are in line with De Mooij and Liu (2020), who demonstrate that the introduction of transfer pricing rules reduces MNEs affiliates' investment; however, the investment response decreases in the share of the intangible assets of affiliates.

As outlined above, on the one hand, intangible assets are associated with the profit-shifting behavior of firms. However, the role of transfer pricing rules for intangible assets in the literature related to the profit-shifting activity of firms via intangibles is neglected. For instance, Beer and Loeprick (2015) considered the introduction of the documentation requirement for transfer pricing at the national level as a measure for enforcing transfer pricing provisions. Their sample includes the introduction of documentation requirements across countries by 2011, while the transfer pricing aspects of intangible assets were not comprehensively incorporated into transfer pricing rules until 2011. Baumann et al. (2020) employ the transfer pricing measure of Mescall and Klassen (2018), which includes 16 features of transfer pricing rules (e.g., the existence of transfer price documentation rules, the age of transfer price regulations, and the availability of advanced pricing agreements) as a measure of the strictness of transfer pricing rules. Although this measure contains several characteristics of transfer pricing rules in a country, it does not include any components explicitly related to the transfer pricing of intangibles. Neglecting rules related to intangibles might be a potential reason why the effect of transfer pricing rules on the shifting of intangibles is not observed in the literature.

## ***2.2. Development of Transfer Pricing Rules***

The OECD first issued practical guidance for transfer pricing in 1979 under title Transfer Pricing and Multinational Enterprises, which served as a basis for the Transfer Pricing Guidelines in 1995. In 1996, the OECD introduced Chapter VI, Special Considerations for Intangible,

which envisages intangible assets and intragroup services. Other guidance regarding intangibles can be found in Chapter VIII on Cost Contribution Arrangements, issued in 1997.

The application of the arm's length principle was revised substantially in 2010 to consider guidance on comparability and profit methods. Chapter IX was introduced into the OECD Transfer Pricing Guidelines in 2010 for dealing with corporate restructuring, and some guidance was provided in Chapter VI on how dependent parties deal with transactions involving intangibles for which valuation is highly uncertain. The discussion related to intangibles started in July 2010 with the invitation of the OECD to submit comments during the revision of the guidance on intangibles to address the issues that were not considered in the transfer pricing guidance in 1996 and 1997. Hence, in 2013, the OECD Action Plan on BEPS proposed a thorough review of transfer pricing guidelines and, notably, a revision of Chapter VI on intangibles. The report on Addressing Base Erosion and Profit Shifting highlighted the key pressure areas related to shifting risks and intangibles (OECD, 2013). BEPS actions were introduced in 2015 by the OECD and G20 and were reviewed substantially in 2017 (OECD, 2017). Actions 8–10, titled “Aligning Transfer Pricing Outcomes with Value Creation,” aimed to align and strengthen the link between economic activities and profits. The guidelines for HTVI were incorporated into OECD Guidelines in 2017. The guidelines also contain substantial revisions to Action 13 (transfer-pricing documentation and CbC reporting).

The 2017 guidelines expand the discussion on comparability analysis, which has been changed to “accurately delineating the actual transaction,” determining whether a controlled transaction has economic substances, and includes more detailed functional and risk analysis than the 2010 guidelines. In 2018, the OECD released “Additional Guidance on the Attribution of Profits to a Permanent Establishment under BEPS Action 7”; and in 2020, issued a report on financial transactions.<sup>3</sup> The latest edition of the transfer pricing guidelines was released in 2022 by the

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<sup>3</sup> Transfer Pricing Guidance on Financial Transactions.

OECD and did not provide any new features but predominantly reflects the consolidation of a number of reports from the BEPS projects in 2017.

Simultaneously, in 2017, a new subcommittee on Article 9 of transfer pricing, was formed to update the UN's practical transfer pricing for developing countries. This results in the second edition of the UN manual, similar to the 2013 edition, providing detailed guidance on applying the arm's-length principle for developing countries, with the objective of addressing base erosion risks and issues (UN, 2013). The revisions incorporate aspects of the changes to the OECD Transfer Pricing Guidelines following the BEPS project in 2015 and are intended to strengthen the consistency of international tax rules and facilitate the inclusion of developing countries. Although the UN manual mirrors the guidance and approaches of the OECD Guidelines, slight differences exist between them in some areas. Additionally, the UN issued a handbook in 2017 (second edition) criticizing the work of the OECD related to issues involving intangibles and payments for intangibles and affirming that several developing countries still face substantial base erosion through payments for rent and royalty. The handbook underlines the exchange of information and the identification of abusive practices to tackle BEPS and highlights its administrative burden.

### **3. Transfer Pricing Rules for Intangibles**

This section presents the outcomes of the revision of Chapter VI of the OECD Guidelines for Multinational Enterprises and Tax Administrations regarding intangibles (OECD, 2022b). First, I discuss the definition of intangibles for transfer pricing purposes based on the OECD Transfer Pricing Guidelines. Furthermore, I present the DEMPE approach for the allocation of returns derived from the exploitation of intangibles in MNEs, wherein the importance of the legal ownership of intangibles is replaced by an assessment of functional ownership, and review the OECD guidance on HTVI.

Transactions involving intangibles are challenging from the transfer pricing perspective because of the lack of comparability between controlled and uncontrolled transactions and issues concerning the ownership of intangibles (OECD, 2022b). Therefore, Paragraph 6.34 of the OECD Guidelines provides a six-step analytical framework to perform a transfer pricing analysis concerning intangibles transactions (OECD, 2022b). The six steps are as follows:

- 1) Identify the intangibles and economically significant risks associated with the DEMPE of the intangibles.
- 2) Identify the full contractual arrangements and determine the legal ownership of intangibles based on the terms and conditions of legal arrangements.
- 3) Identify the parties performing functions through a detailed functional analysis, using assets, and managing risks related to DEMPE.
- 4) Determine the consistency between the terms of the relevant contractual arrangements and the conduct of the parties (including control over the risk and financial capacity for the risk).
- 5) Identify and delineate the actual controlled transactions related to the DEMPE of intangibles in light of the legal ownership of intangibles, other contractual arrangements, and conduct of the parties—including functions performed, assets used, and risk allocation.
- 6) Where possible, determine arm's length prices for these transactions consistent with each party's contributions, including performed functions, assets used, and risk assumed.

These steps include identifying the intangibles and the specific economically significant risks associated with the DEMPE functions. Additionally, these steps concern identifying the contractual arrangements and, in particular, determining the legal ownership of intangible parties

performing DEMPE activities. Furthermore, consistency between the terms of the relevant contractual arrangements and the parties' actual conduct needs to be confirmed when assessing transactions involving intangibles. Therefore, first determining the constituents of an intangible entity according to OECD Guidelines is important.

### ***3.1. Definition of Intangibles***

A significant part of Chapter VI addresses the accurate delineation of transactions involving intangibles. In light of the conceptual framework, the importance of determining intangibles for analyzing transactions related to intangibles between associated enterprises is considered. Therefore, the starting point for transfer pricing analysis regarding intangibles is the definition of intangibles. Paragraph 6.6 of the OECD Guidelines defines an intangible asset as follows:

*Something that is not a physical asset or a financial asset, and which is capable of being owned or controlled for use in commercial activities, and whose use or transfer would be compensated had it occurred in a transaction between independent parties in comparable circumstances. (OECD, 2022b, p.247)*

Notably, per the OECD Guidelines, intangibles recognized for transfer pricing purposes may not necessarily be recognized for accounting purposes. It is, therefore, not an accounting or legal definition but rather determined based on conditions that third parties would also agree on in comparable situations.

Furthermore, the OECD Guidelines contain illustrations to clarify the definition of intangibles (paragraphs 6.18–6.31). The illustrations consider patents, know-how, trade secrets, trademarks, trade names and brands, rights under contracts and government licenses, and licenses and similar limited rights as intangibles. Although goodwill and ongoing concern are also discussed in OECD illustrations, the status of goodwill and ongoing concern is a point of debate,

and the determination of their compensation is contentious. The OECD Guidelines neither define these two items as intangibles nor explicitly state that goodwill and ongoing concerns are intangible. However, the guidelines indicate that for transfer pricing, it is not invariably relevant to provide a precise definition of goodwill, but recognizing this in the context of a total or partial transfer of assets of an operating business is important. Goodwill often represents a significant part of monetary remuneration in a transfer between unrelated parties. Consequently, while goodwill and ongoing concerns are not considered intangible, they should be considered when pricing intangible transactions at arm's length. Based on Article 9 of the OECD Model Tax Convention, the key consideration is whether a transaction conveys economic value in a related-party transaction. Similar to goodwill and ongoing concern, specific local market advantages, group synergies, and an assembled workforce are not considered intangibles because they cannot be owned or controlled and are not intangibles for transfer pricing purposes. Table 1 provides an overview of the definition and illustration of intangibles by the OECD.

< Insert Table 1 about here >

Three important factors should be considered in the context of transfer pricing analysis based on OECD Guidelines (OECD, 2022b). First, the thrust of a transfer pricing analysis for intangibles should be the determination of the conditions that would be agreed upon between independent parties for a comparable transaction; therefore, the definition of intangible for transfer pricing purposes may not always be considered as such for legal or accounting purposes because the transfer pricing concept surpasses legal labeling (Screpante, 2019). For example, patent law generally requires the registration of intangibles, whereas such registration is not needed for an intangible to be recognized as such for transfer pricing purposes. Second, while the protection and registration of intangibles might help determine the existence of intangible assets and could affect their value, it is not a necessary condition for transfer pricing analysis.

For instance, know-how and trade secrets contribute to a firm’s commercial activity, but a firm may choose not to register them. In this case, know-how or trade secrets could still be considered intangible assets for transfer pricing purposes, and their value and return might be affected by their protection level (Dziwinski, 2022).<sup>4</sup> Finally, separate transferability is not a necessary condition for an item to be denoted as intangible for transfer pricing purposes, as some intangibles may be determined separately and transferred on a separate basis, and other intangibles may be transferred solely in combination with other business assets (OECD, 2022b, paragraph 6.8).

Notably, several business consultations occurred during the OECD project for Transfer Pricing Aspects of Intangibles. An important aspect of this project was the definitional aspect of intangibles, in which some commentators suggested the use of definitions drawn from other sources—such as accounting, financial valuation, and intellectual property law—to provide legal certainty. However, from the perspective of countries represented in the OECD, this would not capture all valuable intangibles that are remunerated between independent parties (Silberztein, 2011). Therefore, an intangible asset for transfer pricing purposes surpasses accounting or legal labeling, but overlaps exist in the definitions.<sup>5</sup> For example, in numerous cases, intangibles might not be recorded on the balance sheet (as required by accounting law) of firms because they are developed internally, but they will be used in the firm and generate significant profits; therefore, they must be considered for transfer pricing purposes (Lang et al., 2019).

### ***3.2. Ownership of Intangibles and DEMPE Analysis***

A primary suggestion related to intangibles in the OECD Guidelines is that the legal ownership of intangibles does not guarantee that the legal owner is entitled to full returns from exploiting

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<sup>4</sup> Paragraph 6.8 of OECD Transfer Pricing Guidelines.

<sup>5</sup> Noteworthy, the broad definition of broad definition of intangibles for transfer pricing purposes creates large uncertainties for taxpayers (Lang et al, 2019).



the intangibles (OECD 2022b, paragraph 6.42). In transfer pricing analysis, legal rights and contractual arrangements should be considered from the starting point based on written contracts, public records, or other correspondence and communications among the parties. The OECD guidance highlights active functional involvement when elaborating on substance requirements concerning the transfer pricing of intangibles.

According to Paragraph. 6.71 of the OECD Transfer Pricing Guidelines, entitlement to the full return from intangible assets only exists from a transfer pricing perspective if the legal owner performs all the functions related to DEMPE, considering the assets used and the risk assumed. Other group members should be compensated for their contribution at the arm's length price; that is, they should be remunerated based on their performed functions, assets, and risk in the DEMPE functions of intangibles, which should be determined based on comparability analysis leading to the most appropriate price selection. DEMPE functions include important activities related to the development, enhancement, maintenance, protection, and exploitation of intangible assets. The OECD Guidelines provide some examples of important functions, such as decisions regarding the defense and protection of intangibles and ongoing quality control over functions performed by independent or associated enterprises that may exhibit a material effect on the intangible's value (OECD, 2022b, paragraph 6.56). Furthermore, the risk analysis framework indicated in chapter I of the OECD Guidelines for the accurate delineation of actual transactions should be considered.

In summary, paragraphs 6.51 and 6.71 of the OECD Guidelines clearly state that the legal owner of an intangible will be entitled to all the returns derived from the exploitation of an intangible only if the owner (i) performs and controls all the DEMPE functions; (ii) provides all assets, including funding; and (iii) assumes all the risks.

Moreover, the UN manual provides detailed guidance regarding the transfer pricing of intangibles, which primarily corresponds to OECD Guidelines; however, the UN manual slightly

modifies the OECD approach to DAEMPE, wherein the additional “A” stands for the acquisition of intangibles (UN, 2021). This highlights the importance of developing or acquiring intangibles from third parties and their enhancement, maintenance, protection, and exploitation. The inclusion of “acquisition” only clarifies that an MNE group can acquire intangibles through (self)-development activities or an outright acquisition from a third party.

### ***3.3. Hard-to-Value Intangibles***

Action 8 of the BEPS directed the development of transfer pricing rules for the transfer of HTVI and incorporated the new guidance for HTVI into the 2017 OECD Guidelines in Section D.4 of Chapter VI (OECD, 2017). In 2018, the OECD provided additional guidance on the application of the HTVI approach for tax administrations to create a common understanding among tax administrations, improve consistency, and reduce the risk of double taxation.

The OECD Transfer Pricing Guidelines describe the HTVI as intangibles for which, at the time of its transfer between group entities, (i) no reliable comparables exist; and (ii) the projections of future cash flows attributable to the transferred intangible or the assumptions used in valuing the intangible are highly uncertain, precipitating complications in predicting the ultimate success of the (right in the) intangible at the time of the transfer. The OECD provides six features wherein transactions involving HTVI exhibit one or more of these.<sup>6</sup>

According to OECD, appropriately valuing transactions involving intangibles is crucial. However, the asymmetry of information between taxpayers and tax administrations makes it difficult for tax administrations to evaluate transactions involving HTVI because of a lack of data and information and to determine the transfer price until the ex-post outcomes of the transaction are known. This impedes the ability of tax administrations to use ex-post realization as evidence

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<sup>6</sup> The features of HTVI include the following: 1) the intangible only being partially developed at the time of the transfer; 2) the intangible not being expected to be exploited commercially until several years after the transaction; 3) the intangible being integral to the development or enhancement of other hard-to-value; 4) the intangible being exploited in a novel manner, making reliable projections from past developments unavailable; 5) the intangible being transferred for a lump-sum payment; and 6) the intangible being used and/or developed under a cost contribution or cost-sharing arrangement.

against ex-ante valuation and, thereby, determines the appropriate arm's length price. Furthermore, the uncertainty level is a major problem in estimating the outcome of a transaction involving HTVI. Neither the taxpayer nor the tax administration can anticipate developments that may affect the market situation over a certain period. Consequently, the OECD balances information asymmetry by allowing tax authorities to rely on ex-post outcomes as presumptive evidence to assess whether pricing was based on the arm's length principle.

The OECD's HTVI approach extends the powers of the tax authorities, and taxpayers bear the burden of proof of the reliability of an ex-ante projection once an ex-post outcome deviates from the projections (Konings & Morren, 2021). According to paragraph 6.193 of the OECD Guidelines, tax authorities are not allowed to use the ex-post outcomes to challenge the ex-ante price setting under all circumstances when at least one of the following exemptions applies: (i) The taxpayer can rebut the presumptive evidence by demonstrating the reliability of the information used at the time of the transfer. (ii) The difference between the financial projections and actual outcome is lower than 20%. (iii) The HTVI is covered by a bilateral or multilateral advance pricing arrangement, and a commercialization period of five years has passed following the year in which the HTVI is first generated.

#### **4. Regional Differences and Practical Challenges in Transfer Pricing Rules for Intangibles**

##### ***4.1. Main Characteristics***

Despite the OECD Transfer Pricing Guidelines regarding intangibles in Chapter VI, countries maintain unilateral rules and include specific provisions according to their regulatory background. Therefore, in this section, I focus on the main characteristics of the transfer pricing aspects of intangible assets in the OECD Transfer Pricing Guidelines and elaborate on differences in the implementation of transfer pricing rules related to intangibles in 58 countries.

I summarize the transfer pricing rules in each country with respect to (a) whether there is domestic legislation or regulations containing guidance specific to the pricing of transactions involving intangibles, (b) whether there is domestic legislation or regulation for transfer pricing rules or special measures regarding HTVI and (c) whether the DEMPE approach is used for the appropriate remuneration and entitlement of the multinational group to profit or loss. Regarding the implementation of the DEMPE approach, three main features are considered, as follows: 1) appropriate remuneration according to DEMPE functions; 2) assumption of all risks related to DEMPE activities and control over risk; and 3) entitlement of any member of the MNE group to profit or loss related to the risks and DEMPE functions. An overview of the main characteristics of transfer pricing rules related to intangibles is illustrated in Table 2.

< Insert Table 2 about here >

#### ***4.2. Sample and Data***

The data on domestic legislation or the regulation of intangibles and HTVI are derived from the *OECD Transfer Pricing Country Profiles*.<sup>7</sup> Information on the DEMPE approach is derived from the *International Bureau of Fiscal Documentation (IBFD) - BEPS Country Monitor Tables*<sup>8</sup>. The *OECD transfer pricing Country Profiles* data and *IBFD - BEPS Country Monitor* data are updated in 2022, implying that the data are cumulative and include data on the implementation of transfer pricing in 2022 and previous years. Therefore, the descriptive analysis in this study is based on the implementation of transfer-pricing rules related to intangibles in different countries until July 2022. Table 3 presents the implementation of the main characteristics of the transfer pricing rules related to intangibles across countries. I started with 73 countries

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<sup>7</sup> OECD publishes jurisdiction-specific information on the implementation of key transfer pricing principles, including the intangible property and HTVI approach. For more information, see <https://www.oecd.org/tax/transfer-pricing/transfer-pricing-country-profiles.htm#tpcountryprofiles>

<sup>8</sup> The IBFD BEPS Country Monitor Table provides an overview of the implementation of BEPS actions in 88 countries. The information about the DEMPE analysis is provided under “8. Aligning Transfer Pricing Outcomes with Value Creation (Intangibles)” in tables for each country. The three main features of the DEMPE approach in this paper are based on IBFD - BEPS Country Monitor Table.

from OECD transfer pricing country profiles and dropped the countries for which no data are available from the IBFD country monitor tables. The final sample comprises 58 countries with 31 developed countries and 27 developing countries.

< Insert Table 3 about here >

### **4.3. Implementation**

Figure 2 presents the implementation of transfer-pricing rules related to intangibles across countries. Of the 58 countries in the sample, 27 implemented transfer pricing rules for intangibles in their domestic legislation, including developed and developing countries. While some countries, such as the UK, Austria, Colombia, Egypt, and Saudi Arabia, adopted the OECD Transfer Pricing Guidelines related to intangibles in their domestic legislation<sup>9</sup>, others, such as Australia, Switzerland, France, and Italy, have not implemented the transfer pricing rules for intangibles in domestic legislation. For example, Colombia's domestic secondary legislation contains specific guidance for transactions involving intangible and general transfer pricing rules contained in Colombian CIT, and intangible property is defined specifically under Colombian regulations on documentation according to BEPS Action 8 (Colombian Ministry of Justice and Law, 2016). Another example is the Netherlands, where, despite adopting transfer pricing rules, the Dutch tax law does not define intangible (Directorate-General for Fiscal Affairs, 2018). In some cases, such as Switzerland, Costa Rica, Latvia, the Slovak Republic, Greece, Italy, and Panama, although domestic legislation does not contain specific guidance on the pricing of controlled transactions involving intangibles, they rely on the OECD Transfer Pricing Guidelines as a source of interpretation as well as in the audit process. Italy does not have any domestic transfer pricing legislation regarding intangibles, whereas references to the

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<sup>9</sup> Countries that have implemented transfer pricing rules for intangibles are Austria, Germany, Denmark, Estonia, Ireland, Japan, South Korea, Lithuania, Netherlands, Portugal, Singapore, Slovenia, United Kingdom, United States, Argentina, China, Colombia, Egypt, Indonesia, Malaysia, Nigeria, Peru, Romania, Saudi Arabia, Turkey, Ukraine, and South Africa.

OECD Transfer Pricing Guidelines for intangibles are presented in Italy's patent box regime law (Alessandro & Monga, 2021)<sup>10</sup>. Nevertheless, the definition of intangible assets in the Italian patent box regime differs from that in the OECD Transfer Pricing Guidelines. In the case of Brazil, Brazilian transfer pricing rules do not provide guidance focused on intangibles and explicitly exclude royalties from their scope (Ordinance of the Ministry of Finance 436, 1958). However, the Brazilian Tax Authority and OECD discussed Brazil's proposal for a transfer pricing system that aligns with OECD's Transfer Pricing Guidelines (EY, 2022; OECD/Receita Federal do Brasil, 2019). Among other changes, the new transfer pricing system contains the definition of intangible for transfer pricing purpose.

Only 11 countries in the sample, mostly developed, have implemented HTVI in their domestic legislation. For example, in 2019, Japan passed a tax reform that amended its transfer pricing rules to comply with the Organisation for OECD and Development's HTVI approach (Hagelin & Muto, 2019). Japan has adopted price adjustment measures pertaining to HTVI assets, which are largely identical to the BEPS Action 8 Final Report definition. Additionally, under Section 482 of the US Internal Revenue Code, the HTVI approach corresponds to the commensurate with income standards, which states that if an intangible is transferred under an arrangement that covers more than one year, the consideration charged in each taxable year may be adjusted to ensure that it is commensurate with the income attributable to the intangibles (IRC §482, 2015; Treas. Reg. §§1.482-4(f)(2) and (6) and 1.482-7(i)(6), 2012).

Moreover, Figure 2 illustrates that 44 of 58 countries in the sample follow the DEMPE approach for the remuneration and entitlement of profit or loss of intangible assets, indicating a high level of acceptance of the DEMPE approach across countries. Countries such as Germany

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<sup>10</sup> Ministerial Decree of 14 May 2018 (Decree of 14/05/2018, 2018) refers in the Preamble to the Final Report on Actions 8-10 of the OECD/G20 BEPS Project and to the OECD Guidelines approved by the OECD Council on 10 July 2017.

and Australia focus on analyzing critical functions, using assets, and managing the risk associated with the DEMPE functions. Other countries such as France, Italy, Latvia, Slovenia, and Switzerland do not employ DEMPE analysis. For instance, legal ownership is recognized more than economic ownership in French transfer pricing rules (Official Bulletin of Public Finance, 2014). Chinese tax authorities apply the concept of “economic ownership,” especially in the case of marketing intangibles and intangibles resulting from R&D activities in China. Additionally, Chinese tax authorities conduct a six-function (DEMPEP) analysis of the intangible’s transaction, where “P” denotes promotion and is considered an important value-creating factor when determining profit allocation of intangible-related income (PwC, 2017). This is yet another approach for dealing with value creation in transfer pricing, next to the OECD and UN.

<Insert Figure 2 about here>

#### ***4.4. Heterogeneity in Implementation***

Significant variation exists across countries in the implementation of transfer pricing rules for transactions involving intangible assets. Figure 3 illustrates the variation in the implementation of transfer pricing rules for intangibles across the 58 countries in the sample. Ten countries, such as Austria, Germany, the UK, Denmark, Japan, and the USA<sup>11</sup>, have fully adopted all three main characteristics of OECD Transfer Pricing Guidelines related to intangibles in their domestic legal system. Notably, all of these countries are developed; among them, the United States, Germany, and Japan had the highest number of submitted patents to the European Patent Office in 2017.<sup>12</sup> This suggests that developed countries are protecting their tax bases on intangibles from profit shifting by implementing and tightening transfer pricing rules for intangibles.

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<sup>11</sup> The countries that fully implemented the transfer pricing rules related to intangibles are Austria, Germany, Denmark, Ireland, Japan, Lithuania, Netherlands, South Korea, the United Kingdom, United States.

<sup>12</sup> The data on the number of patent applications to the European patent office is publicly available from OECD.Stat under: [https://stats.oecd.org/Index.aspx?DataSetCode=PATS\\_IPC](https://stats.oecd.org/Index.aspx?DataSetCode=PATS_IPC)

Interestingly, Figure 3 illustrates that Poland is the only country that has not implemented the transfer pricing rules for intangibles into domestic legislation but has implemented the OECD HTVI approach into domestic legislation. However, to assess the transfer pricing of transactions involving intangibles, Poland relies on the OECD Transfer Pricing Guidelines and requires transfer pricing documentation (master file) for intangibles (Poland Minister of Finance, 2018). The HTVI approach is elucidated in Paragraph 8 of the Polish Transfer Pricing Ordinance (Ordinance of Minister of Finance on transfer pricing in terms of corporate income tax, 2018), and the definition and conditions are aligned with the OECD Transfer Pricing Guidelines.

Among the sample countries, 20 countries, including Australia, Belgium, Finland, and Russia, although they have not implemented specific rules for intangibles and HTVI in their domestic legislation, they follow the OECD DEMPE approach for the remuneration and entitlement of profit to the group members.

There are 11 countries, such as Brazil, Switzerland, and Panama, in a sample that has not implemented any of the main characteristics of transfer pricing rules for intangibles in domestic transfer pricing legislation.<sup>13</sup> In Brazil, a change proposed in the new transfer pricing system is the DEMPE approach for profit allocation.

Overall, inconsistencies exist in the implementation of the OECD Transfer Pricing Guidelines on intangibles across countries. A primary issue is related to the definition of intangibles. While some countries clearly define intangibles for transfer pricing purposes (e.g., Germany, the UK, the USA, China, and Colombia), other countries do not define the constituents of intangibles for transfer pricing purposes (e.g., France, Italy, the Netherlands, and Saudi Arabia). Furthermore, although the OECD transfer pricing rules for intangibles are not adopted in domestic

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<sup>13</sup> The countries that do not implement any characteristics of OECD Transfer Pricing Guidelines for intangibles in their domestic legislation are Brazil, Costa Rica, France, Georgia, Italy, Latvia, Slovak Republic, Switzerland, Greece, Panama, and Tunisia.



regulations in some countries, such as Chile, Luxembourg, Norway, and Finland, the context of OECD Transfer Pricing Guidelines for intangibles could be applied in the audit process by tax authorities. This precipitates uncertainty regarding how tax authorities interpret the rules as well as audit risks and penalties. A notable example is Iceland, which provides no regulation or guidance for transactions involving intangibles. Yet, Article 8 states that a party subject to documentation needs to declare all intangible assets within a group and the information regarding the DEMPE must be documented (Iceland Ministry of Finance and Economy, 2014).

On the one hand, the inconsistencies observed in transfer pricing rules related to intangibles across countries create more opportunities for profit shifting; on the other hand, leave room for interpretation by tax administrations, thus precipitating double taxation (Gupta, 2019). The theoretical work by De Waegenaere et al. (2006) suggests that inconsistencies in transfer pricing rules across countries can decrease expected tax liabilities when taxpayers engage in substantial income shifting. Moreover, they found that an increase in the likelihood of transfer price rule inconsistency causes more aggressive auditing by tax authorities. In the same vein, the UN (2013) states that inconsistencies in international tax could increase the tax burden for taxpayers even when no tax avoidance or evasion exists because the inconsistencies in transfer pricing rules could increase tax disputes, which incur significant costs for tax authorities and taxpayers. Nevertheless, inconsistencies do not affect countries uniformly. Diller et al. (2021) investigate the strategic tax transfer pricing of MNEs and tax authorities and find that consistent transfer pricing rules indirectly reduce tax avoidance in high-tax countries and prevent tax avoidance in low-tax countries. Their theoretical analysis also suggests that under specific conditions, the low-tax country benefits—in terms of net tax revenue—from consistency, whereas the high-tax country benefits from inconsistency.

<Insert Figure 3 about here>

#### *4.5. Developed versus Developing Countries*

MNEs in developed countries often have superior technology to create intangibles, whereas the rapidly growing market in developing countries and the participation of subsidiaries in these countries are needed to expand the market and monetize the value of such intangible assets (UN, 2021). Hence, intangibles are a critical topic for developing and developed countries, and deterring the shifting of profits related to intangible assets via transfer pricing is critical for both developed and developing countries. Therefore, for the analysis in this section, I divide the countries into developed and developing countries. According to the International Monetary Fund's Fiscal Monitor Database, countries were classified as developed and developed.<sup>14</sup> Figure 4 reveals that nearly 45% of developed countries and 48% of developing countries in the sample have implemented transfer pricing rules related to intangibles in their domestic regulations. Among the developed countries, nearly 32.26% have adopted the HTVI approach into domestic law, while only 3.7% of developing countries implemented the HTVI in their domestic legislation. This may be because these rules were introduced recently and were first implemented by developed countries. Hence, developing countries need time to recognize the issue of HTVI and align themselves with the rules. Regarding the DEMPE approach, approximately 77% of developed countries and 74% of developing countries in the sample follow the DEMPE approach, though differences exist in DEMPE analysis among these countries. The analysis indicates that developed and developing countries exhibit a relatively similar pattern in adopting transfer pricing rules related to intangible assets in their domestic regulations. This could be the result of the various initiatives from the OECD and the UN (such as the UN Manual on transfer pricing) for developing countries to embrace compliance with transfer pricing in a global environment.

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<sup>14</sup> For more information, see <https://www.imf.org>.

The UN Practical discusses that major concerns regarding the implementation of transfer pricing rules in developing countries are the availability of data and expert skills, which pose special difficulties for those countries (UN, 2021). Data availability is particularly crucial for comparability analysis, and the databases for transfer pricing analysis tend to focus on developed countries, which leads to difficulties in determining the arm's length price for MNEs in developing countries. The absence of data and information on comparables is also a major problem in transfer pricing assessment in Latin America and the Caribbean (Arias Esteban, 2021). Moreover, the UN (2021) emphasizes that transfer pricing analysis and documentation require expert skills in both tax administrations and MNEs, and training in such a specialized area is not readily available because of scarce resources in developing countries (UN, 2021). Nonetheless, this problem has also been addressed in the literature for developed countries (e.g., Bornemann et al., 2021). Notwithstanding these difficulties, numerous developing countries have made significant progress in constructing the necessary skills and capacity (UN, 2021).

<Insert Figure 4 about here>

#### **4.6. Practical Challenges**

Several countries have implemented transfer pricing rules related to intangibles in their domestic regulations and tightened their transfer pricing legislation to prevent firms' BEPS activity via intangible assets. With the introduction of the DEMPE approach, multinationals should be able to align their entities' functional and risk profiles with their profitability. However, practical challenges to implementing the DEMPE approach exist. The first practical issue regarding DEMPE functions addressed in some studies is the complexity of the effective identification and analysis of DEMPE functions in practice (Austin et al., 2021; Chand & Lembo, 2020; Greinert et al., 2020; Paumier, 2020; Verlinden et al., 2019). Verlinden et al. (2019) and Greinert et al. (2020) argue that identifying the contributors to the DEMPE functions and the analysis of the level of contribution is very complex in practice when several departments in

the MNEs control the risks associated with the DEMPE functions of several intangibles. For example, some departments may focus mainly on R&D, whereas others may manage other intangibles, such as trademarks or brands. Therefore, DEMPE functions may be controlled by several departments, and the decision-making process is spread over different units of MNEs. Hence, there will be a certain level of uncertainty in practice regarding whether—and how much—income should be reallocated from the legal owner to other group members for their respective contributions and how it should be specified (Austin et al., 2021). Further, Verlinden et al. (2019) discuss that to assess the DEMPE functions, MNEs should arrange a continuous and transparent exchange of information on the value creation and management of intangibles from the beginning. The analysis and documentation of IP creation are particularly difficult when contributors are located in different locations and departments (Paumier, 2020). Consequently, identifying and remunerating DEMPE functions in the presence of several intangibles and several departments contributing to different DEMPE functions is challenging (Chand & Lembo, 2020).

The second important practical challenge related to DEMPE that is highlighted in these studies is the documentation requirements to ensure that the functional analysis and comparability analysis fully reflect the DEMPE functions and are accurate (Austin et al., 2021; Chand & Lembo, 2020; Verlinden et al., 2019). Verlinden et al. (2019) and Chand and Lembo (2020) discuss the documentation of DEMPE analysis in the master file and pointed out that considering the level of information and detail for assessing the DEMPE functions, the documentation might be burdensome. Furthermore, Austin et al. (2021) state that additional documentation requirements are considered in some countries, and the level of documentation expected in tax audits significantly surpasses the usual documentation.

Another issue regarding the analysis of DEMPE functions discussed in the literature is the risk of transfer pricing disputes between taxpayers and tax authorities and double taxation (Greinert

et al., 2020; Heggmaier, 2017; Musselli & Musselli, 2017). Heggmaier (2017) argues that assessing various DEMPE functions is highly subjective and leads to different conclusions by different tax authorities, resulting in high legal uncertainty for MNEs. A crucial factor for tax authorities to properly evaluate DEMPE functions is the sufficient number of transfer pricing specialists for an in-depth understanding of business models. Musselli and Musselli (2017) remark that it is likely that countries with better economic and political power may have more qualified economists and transfer pricing specialists and, thereby, be more likely to claim higher profits from MNEs. Greinert et al. (2020) discuss the complex structures of numerous DEMPE functions, numerous group units that perform DEMPE functions, and the different evaluations of DEMPE functions that increase transfer pricing disputes with tax authorities and the risk of double taxation.

Turning to the HTVI approach, this approach aims to deal with the information asymmetry between taxpayers and tax administration and gives tax administrations the possibility of using the ex-post outcomes of the transfer of an intangible as presumptive evidence that the associated parties did not consider the events or developments foreseeable at the time of the transaction; therefore, the price was not at arm's length. Minimal practical experience regarding the HTVI approach exists because numerous countries continue integrating this approach into their transfer pricing rules. However, the main issue addressed in the prior literature regarding the HTVI approach is its incompatibility with the arm's length principle (Hagelin, 2019; Penelle, 2017; Rodríguez Peña, 2020). Rodríguez Peña (2020) discussed three underlying reasons for the HTVI approach's incompatibility with the arm's length principle. More specifically, the use of hindsight by tax authorities, transactional adjustments if the taxpayer cannot rebut the presumptive evidence, and the reversal of the burden of proof on the taxpayer are considered the main reasons for the incompatibility of the HTVI approach with the arms' length principle. Further, Hagelin (2019) remarked that the HTVI approach might impose an increased burden

on taxpayers as they should ensure that the ex-ante valuations of related-party HTVI transactions are correct and that any possible deviations are due to unforeseen developments. More specifically, the taxpayer bears the burden of proof of the reliability of the ex-ante projection if the ex-post outcome deviates from the projection. Penelle (2017) argues that HTVI can be abused as ex-post results will always differ from ex-ante projections because ex-post outcomes reflect a single realization of all possible risk outcomes, while ex-ante projections reflect the average of all possible risk outcomes. This study addresses the level of subjectivity in the HTVI approach and discusses how allowing tax authorities to make HTVI adjustments based solely on the size of the spread between the average risk outcome, and the actual risk might lead to significant adjustments that may be difficult for taxpayers to contest. Overall, the incompatibility of HTVI with the arms' length principle could be a major issue in adopting the HTVI approach, thereby causing more disputes among countries.

Overall, considering the pace of business evolution and the value contributed to intangibles, these assets have become an increasing focus for tax authorities. On the one hand, any lack of clarity in identifying the intangibles and place of value creation may lead to costs of non-compliance for firms. On the other hand, uncertainties concerning transfer pricing for intangibles still exist, and inconsistencies in rules could be observed among countries. As advanced price agreements and mutual agreement procedures are important tools to provide certainty for the tax treatment of intercompany transactions, it would be worthwhile to examine whether and how these tools would be beneficial, especially for DEMPE and HTVI analysis.

## **5. Conclusion**

Using intangibles to shift profits from the location of value creation to low-tax jurisdictions was addressed by the OECD and the G20 through the BEPS Project as a critical area for deterring tax-base erosion practices arising from the existence of loopholes and mismatches in the interaction of domestic tax laws. Hence, tax authorities and international organizations have

noticed the transfer pricing challenges related to intangibles, and multilateral efforts have been exerted to coordinate and tighten the anti-profit shifting rules concerning intangibles. This study presents the OECD Transfer Pricing Guidelines regarding intangible assets, analyzes the implementation of transfer pricing rules for transactions involving intangibles across countries, and elaborates on the practical challenges of implementing these rules.

Numerous countries have implemented transfer pricing rules related to intangibles in their domestic legislation and tightened their transfer pricing legislation to prevent the BEPS activity of firms via intangible assets. Nevertheless, some inconsistencies could be observed in the implementation of transfer pricing for intangibles among countries.

While some countries have implemented the three main characteristics of transfer pricing rules for intangibles in their domestic legislation, others have not implemented any rules related to intangibles. Among other reasons, the non-uniform definition of intangibles for transfer pricing purposes—even among countries that have adopted these rules—is considered a source of uncertainty and inconsistency.

In the course of the analysis, practical challenges related to the main characteristics of OECD Transfer Pricing Guidelines for intangibles are outlined. The complexity of identifying DEMPE functions, onerous documentation requirements, transfer pricing disputes, and the risk of double taxation is reported as the most important practical challenge for DEMPE analysis in the literature. Regarding the HTVI approach, the problem of incompatibility with the arm's length principle is considered the most practical challenge; therefore, countries should carefully consider this before implementing the HTVI approach.

Having discussed the OECD Transfer Pricing Guidelines and BEPS project regarding intangibles to allocate profits in accordance with value creation, clearly, multinationals should be able to better align the functional and risk profiles of their entities with their profitability. This implies that if more substance exists in a jurisdiction, more profits should be attributed, and more

taxes should be paid. Thus, shifting the intangibles' return to a multinational entity that performs no functions, uses no assets, and assumes that no risks will no longer (at least partially) be possible. However, multinational firms can now shift (intentionally or unintentionally) substances by relocating functions performed, assets used, and risks assumed in low-tax countries. This should be of high importance for countries such as Japan, the USA, and Germany, which, on the one hand, are the residents of most of the patents registered in the world and, on the other hand, has fully adopted the rules for intangibles to their domestic legislation. Eventually, profit shifting may be replaced by shifting functions of multinational firms in these countries. This study provides a valuable contribution to the existing academic literature and paves the way for future studies on transfer-pricing rules and intangibles. The implementation of the main characteristics of transfer pricing rules discussed in this study can be used to develop a measure for transfer pricing rules for intangibles. Moreover, future studies can use data on the implementation of transfer pricing rules for intangibles across countries and examine the association of inconsistencies in these rules and transfer pricing disputes among countries.



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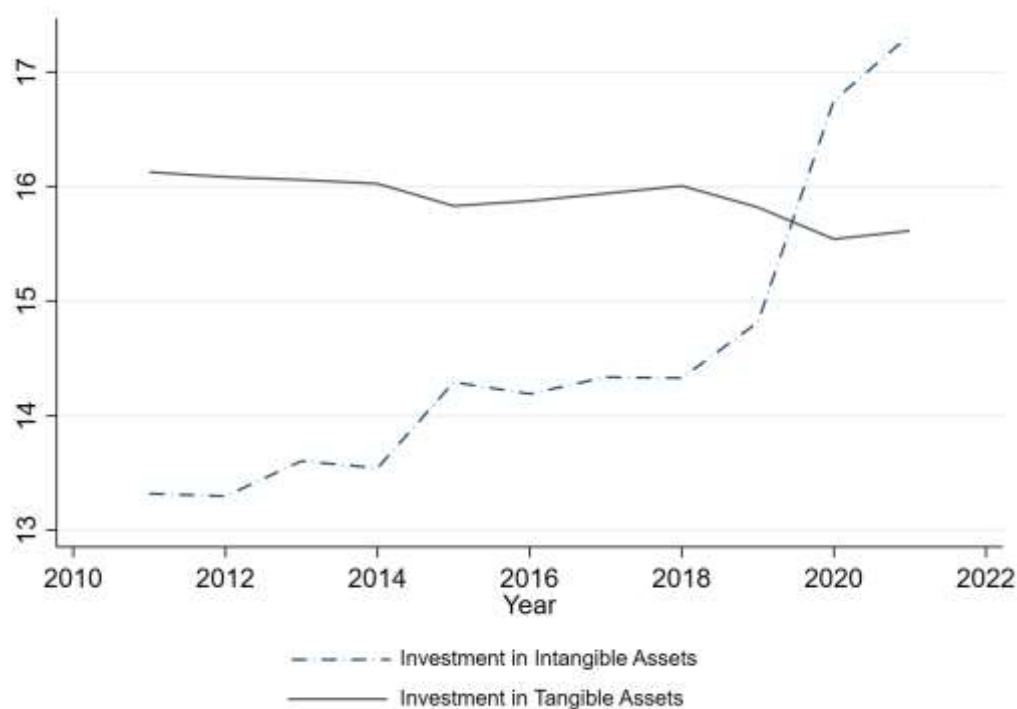
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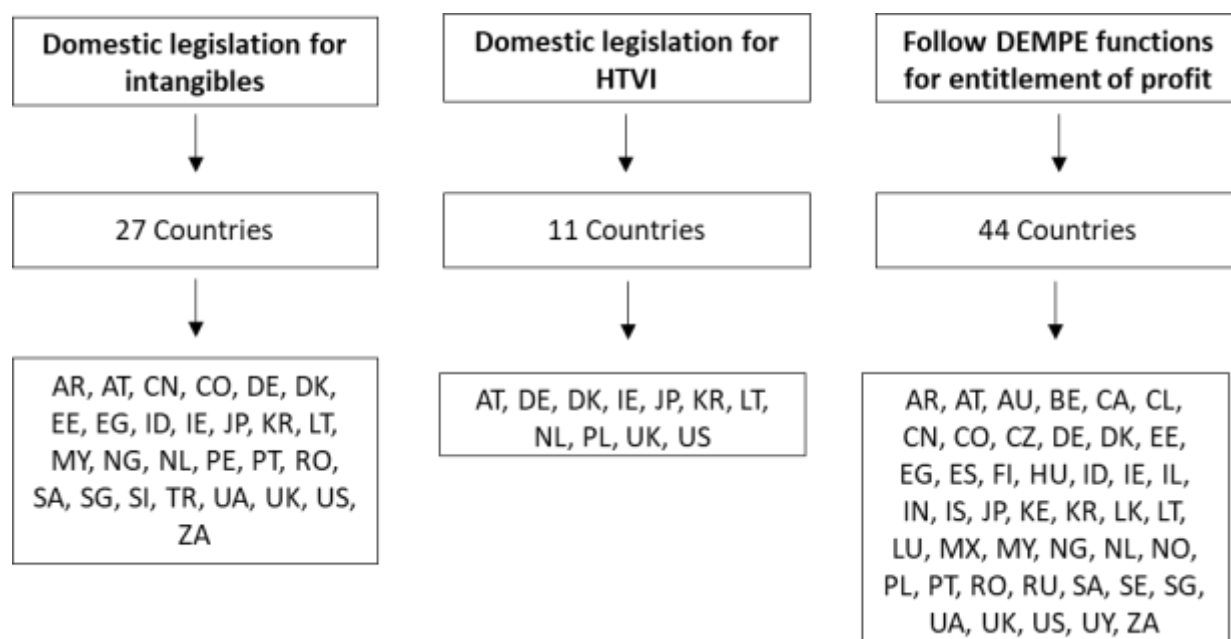
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**Figure 1.** Investment by asset (2011 – 2021)



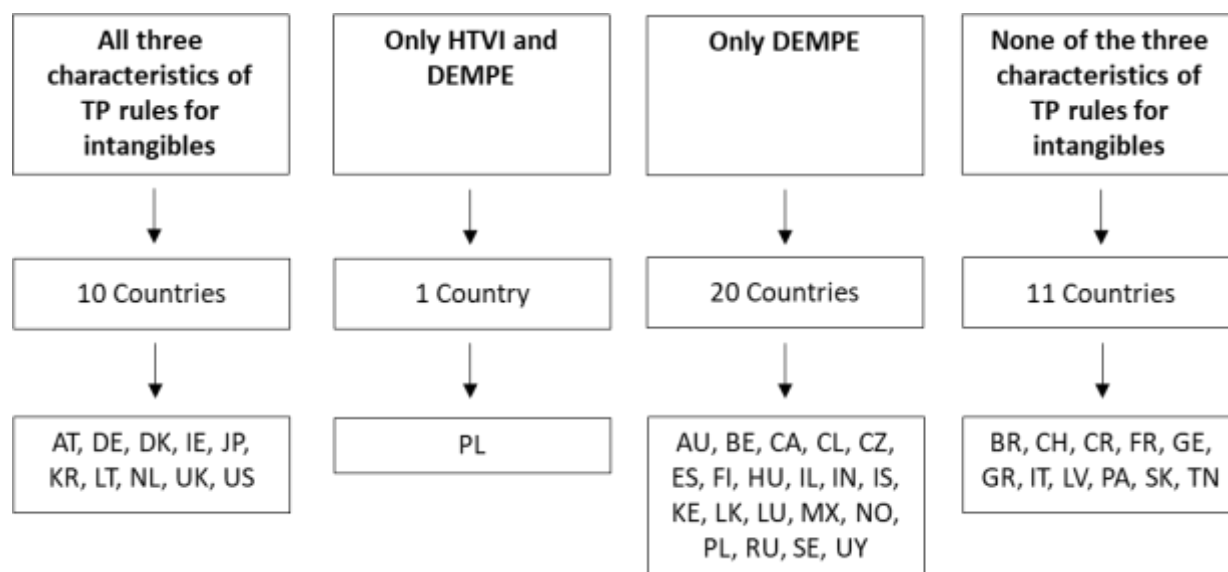
Notes: This figure illustrates investment by assets in 40 countries from 2011 to 2021. The data are derived from OECD (2022a), and assets type in the indicator include dwellings (excluding land); other buildings and structures (e.g., roads, bridges, airfields, and dams), transport equipment (e.g., ships, trains, and aircraft), cultivated biological resources (e.g., managed forests and livestock raised for milk production), intellectual property products (e.g., R&D, mineral exploration, software and databases, and literary and artistic originals), and information and communication technology equipment (e.g., computer software and databases, telecommunications equipment, and computer hardware). Each asset is measured as the percentage of the total gross fixed capital formation. The intangible assets contain intellectual property products, information, and communication technologies. The other four asset types were coded as tangible assets.

**Figure 2.** Transfer pricing rules for intangibles across countries



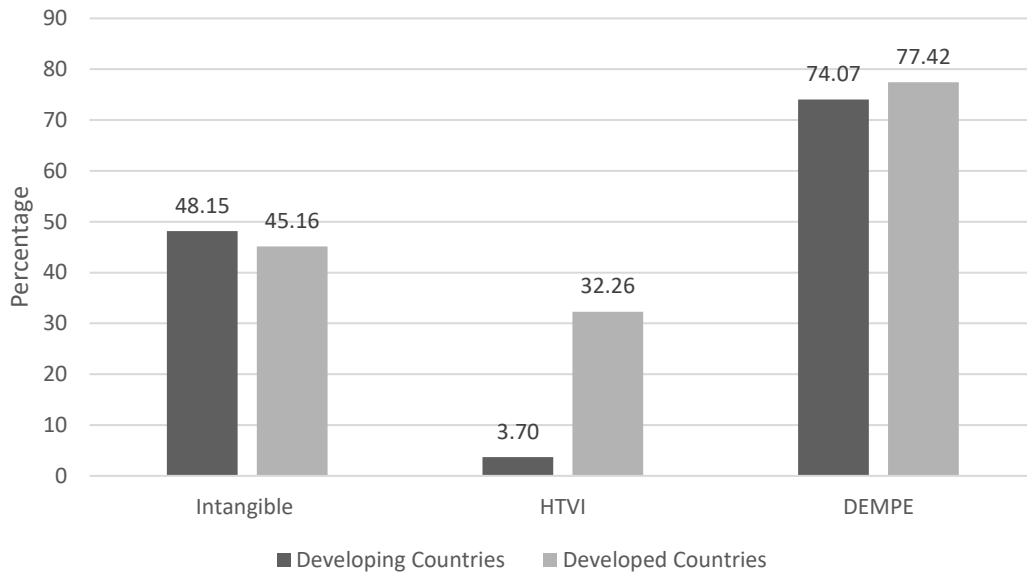
Notes: This figure presents the implementation of the main characteristics of the transfer pricing rules for intangibles across countries in 2022. The data on the domestic legislation of transfer pricing for intangibles and HTVI are gathered from the OECD Transfer Pricing Country Profiles, and the data for the implementation of the DEMPE approach are gathered from IBFD-BEPS Country Monitor Tables. The three main characteristics of the transfer pricing rules related to intangibles are listed in Table 2.

**Figure 3.** Heterogeneity in transfer pricing rules for intangibles across countries



Notes: This figure presents the implementation of the main characteristics of the transfer pricing rules for intangibles across countries in 2022. The data on the domestic legislation of transfer pricing for intangibles and HTVI are gathered from the OECD Transfer Pricing Country Profiles, and the data for the implementation of the DEMPE approach are gathered from IBFD-BEPS Country Monitor Tables. The three main characteristics of the transfer pricing rules related to intangibles are listed in Table 2.

**Figure 4.** Differences in transfer pricing rules for intangibles in developed and developing countries



Notes: This figure presents the implementation of the main characteristics of transfer-pricing rules for intangibles in developed and developing countries in 2022. The data on the domestic legislation of transfer pricing for intangibles and HTVI are gathered from the OECD Transfer Pricing Country Profiles, and the data for the implementation of the DEMPE approach are gathered from IBFD-BEPS Country Monitor Tables. The three main characteristics of the transfer pricing rules related to intangibles are listed in Table 2.



**Table 1.** Definition of intangibles based on OECD Transfer Pricing Guidelines

| <b>“... something that is not a physical asset or a financial asset, and which is capable of being owned or controlled for use in commercial activities” (para. 6.6 OECD Guidelines)</b> |  |
|--|--|
| Patents  | Intangibles (paragraph 6.19)   |
| Know-how and trade secrets   | Intangibles (paragraph 6.20)   |
| Trademarks, trade names, and brands  | Intangibles (paragraphs 6.20–6.23)   |
| Rights under contracts and government licenses   | Intangibles (paragraphs 6.24–6.25)   |
| Licenses and similar limited rights in intangibles   | Intangibles (paragraph 6.26)   |
| Goodwill and ongoing concern value   | Not intangibles initially, but paragraphs 6.28 and 6.29 should be considered |
| Group synergies  | Not intangibles, but relevant for TP (paragraph 6.30)                        |
| Market-specific characteristics  | Not intangibles, but relevant for TP (paragraph 6.31)                        |

Source: OECD (2022b)

**Table 2.** Overview of main characteristics of transfer pricing rules related to intangibles

| <b>Item</b>   | <b>Rating</b>    |
|---|------------------|
| <b>a)</b> Whether there is domestic legislation or regulations containing guidance specific to the pricing of controlled transactions involving intangibles | 0 – No   1 – Yes |
| <b>b)</b> Whether there is domestic legislation or regulation for transfer pricing rules or special measures regarding hard-to-value intangibles (HTVI)     | 0 – No   1 – Yes |
| <b>c)</b> Whether the DEMPE approach is used for the appropriate remuneration and entitlement of the MNE group to profit or loss                            | 0 – No   1 – Yes |

Notes: This table presents the main characteristics of the transfer pricing rules for intangibles across countries. The data on the domestic legislation of transfer pricing for intangibles and HTVI are gathered from the OECD Transfer Pricing Country Profiles, and the data for implementation of the DEMPE approach are gathered from IBFD-BEPS Country Monitor Tables.

**Table 3.** Implementation of main characteristics of transfer pricing rules for intangibles across countries (1= Yes, 0 = No)

| <b>Country</b>              | <b>Intangible</b> | <b>HTVI</b> | <b>DEMPE</b> |
|-----------------------------|-------------------|-------------|--------------|
| <b>Developed Countries</b>  |                   |             |              |
| Austria                     | 1                 | 1           | 1            |
| Australia                   | 0                 | 0           | 1            |
| Belgium                     | 0                 | 0           | 1            |
| Canada                      | 0                 | 0           | 1            |
| Switzerland                 | 0                 | 0           | 0            |
| Czech Republic              | 0                 | 0           | 1            |
| Germany                     | 1                 | 1           | 1            |
| Denmark                     | 1                 | 1           | 1            |
| Estonia                     | 1                 | 0           | 1            |
| Spain                       | 0                 | 0           | 1            |
| Finland                     | 0                 | 0           | 1            |
| France                      | 0                 | 0           | 0            |
| Greece                      | 0                 | 0           | 0            |
| Ireland                     | 1                 | 1           | 1            |
| Israel                      | 0                 | 0           | 1            |
| Iceland                     | 0                 | 0           | 1            |
| Italy                       | 0                 | 0           | 0            |
| Japan                       | 1                 | 1           | 1            |
| South Korea                 | 1                 | 1           | 1            |
| Lithuania                   | 1                 | 1           | 1            |
| Luxembourg                  | 0                 | 0           | 1            |
| Latvia                      | 0                 | 0           | 0            |
| Netherland                  | 1                 | 1           | 1            |
| Norway                      | 0                 | 0           | 1            |
| Portugal                    | 1                 | 0           | 1            |
| Sweden                      | 0                 | 0           | 1            |
| Singapore                   | 1                 | 0           | 1            |
| Slovenia                    | 1                 | 0           | 0            |
| Slovak Republic             | 0                 | 0           | 0            |
| United Kingdom              | 1                 | 1           | 1            |
| United States               | 1                 | 1           | 1            |
| <b>Developing Countries</b> |                   |             |              |
| Argentina                   | 1                 | 0           | 1            |
| Brazil                      | 0                 | 0           | 0            |
| Chile                       | 0                 | 0           | 1            |
| China                       | 1                 | 0           | 1            |
| Colombia                    | 1                 | 0           | 1            |
| Costa Rica                  | 0                 | 0           | 0            |
| Egypt                       | 1                 | 0           | 1            |
| Georgia                     | 0                 | 0           | 0            |
| Hungary                     | 0                 | 0           | 1            |
| Indonesia                   | 1                 | 0           | 1            |
| India                       | 0                 | 0           | 1            |
| Kenya                       | 0                 | 0           | 1            |
| Sri Lanka                   | 0                 | 0           | 1            |
| Mexico                      | 0                 | 0           | 1            |
| Malaysia                    | 1                 | 0           | 1            |
| Nigeria                     | 1                 | 0           | 1            |
| Panama                      | 0                 | 0           | 0            |
| Peru                        | 1                 | 0           | 0            |
| Poland                      | 0                 | 1           | 1            |
| Romania                     | 1                 | 0           | 1            |
| Russia                      | 0                 | 0           | 1            |
| Saudi Arabia                | 1                 | 0           | 1            |

|              |   |   |   |
|--------------|---|---|---|
| Tunisia      | 0 | 0 | 0 |
| Turkey       | 1 | 0 | 0 |
| Ukraine      | 1 | 0 | 1 |
| Uruguay      | 0 | 0 | 1 |
| South Africa | 1 | 0 | 1 |

Notes: This table presents the implementation of the main characteristics of transfer-pricing rules for intangibles across countries. Intangible is an indicator variable equal to one if a country reports the existence of domestic legislation of transfer pricing rules for intangibles based on OECD Transfer Pricing Country Profiles. HTVI is an indicator variable equal to one if a country documents the existence of domestic legislation for HTVI of transfer based on OECD transfer-pricing country profiles. DEMPE is an indicator variable equal to one if a country reports using the DEMPE approach for the entitlement of profit of intangibles—per the IBFD - BEPS Country Monitor Tables.