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TRANSFER PRICING CHALLENGES IN THE CLOUD

ORLY MAZUR*

Abstract: Cloud computing has fundamentally changed how companies operate. Companies have quickly adapted by moving their businesses to the cloud, but international tax standards have failed to follow suit. As a result, taxpayers and tax administrations confront significant tax challenges in applying outdated tax principles to this new environment. One particular area that raises perplexing tax issues is the transfer pricing rules. The transfer pricing rules set forth the intercompany price a cloud service provider must charge an affiliate using its cloud services, which ultimately affects the determination of the jurisdiction in which the company's profits are taxed. This Article argues that, due to the nature of the cloud, the current transfer pricing rules give U.S. multinational enterprises substantial freedom to shift profits to low-tax jurisdictions and avoid tax in the United States in a practice commonly referred to as base erosion and profit shifting, or "BEPS." This type of aggressive international tax planning has become a pressing problem worldwide that poses a serious risk to tax sovereignty, tax fairness, and the integrity of the corporate income tax. The Organisation for Economic Co-operation and Development ("OECD") launched an action plan to address the BEPS problem, but the OECD's work falls short of coming up with an innovative solution that will minimize the artificial shifting of profits abroad. In response, this Article recommends that, given the features of this new business environment, an international tax reform solution that adopts formulary apportionment or the profit-split methodology on a coordinated global basis would better address BEPS and minimize the undesirable policy results of our current transfer pricing rules.

INTRODUCTION

The buzzword "cloud computing" is more than a technological fad. As businesses from all industries increasingly move their operations to the

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cloud, cloud computing has proven to be a key driver of electronic commerce and has already generated more than \$150 billion in market sales annually.¹ Cloud computing, which generally refers to the provision of information technology (“IT”) services in a virtual environment, allows a business to share computing resources, such as software, storage space, databases, IT personnel, hardware, and other infrastructure.² It has become an attractive way of acquiring computing resources because it eliminates the need to manage captive IT infrastructure, provides scalable, on-demand service, and offers substantial cost savings, efficiencies, and other benefits to businesses.³ Although this movement to the cloud provides businesses with substantial benefits, it also raises novel international tax issues that present challenges for both businesses and tax administrations. This Article focuses on the significant challenges that arise in applying the transfer pricing rules to multinational enterprises (“MNEs”) providing cloud services internally.⁴

Every business that transacts internationally with related parties must take into account the transfer pricing rules. Transfer pricing is the price charged by one entity to a related entity for property or services.⁵ Therefore, where one or more members of an MNE group provide IT resources remotely to related members of the group, U.S. law, as well as the law of most other countries, dictates there must be an associated charge between the cloud service provider and the affiliate that is using those cloud computing services.⁶

¹ Orly Mazur, *Taxing the Cloud*, 103 CALIF. L. REV. 1, 3 (2015); see Louis Columbus, *Roundup of Cloud Computing Forecasts and Market Estimates, 2015*, FORBES (Jan. 24, 2014, 2:57 PM), <http://onforb.es/1uIoOiG> [perma.cc/7V94-VWH2]; Press Release, Gartner, Gartner Says Cloud Computing Will Become the Bulk of New IT Spend by 2016 (Oct. 24, 2013), <http://www.gartner.com/newsroom/id/2613015> [perma.cc/FV2P-QEDJ]. Cloud computing is a rapidly growing business. Global business spending on cloud computing is forecast to amount to \$235 billion by 2017. Patrick Seitz, *Cloud Computing Sales to Triple by 2017, New Forecast Says*, INVESTOR’S BUS. DAILY (Feb. 14, 2014), <http://news.investors.com/technology-click/021414-690137-amzn-goog-msft-battling-for-growing-cloud-market.htm> [https://perma.cc/R62D-L7TF].

² See PETER MELL & TIMOTHY GRANCE, U.S. DEP’T OF COMMERCE, SPECIAL PUB. NO. 800-145, THE NIST DEFINITION OF CLOUD COMPUTING: RECOMMENDATIONS OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY 2 (2011); Mazur, *supra* note 1, at 8–9.

³ Mazur, *supra* note 1, at 7–8; KPMG INT’L, TAX IN THE CLOUD: A BRIEFING FOR TAX DIRECTORS 5 (2012), <http://www.kpmg-institutes.com/content/dam/kpmg/taxwatch/pdf/2012/tax-cloud-briefing.pdf> [perma.cc/WLP5-C3T8].

⁴ A business can acquire cloud computing services in several ways: it can outsource this function to a third party, it can develop its own internal cloud platform to use in operating its business, or it can use some combination of the foregoing. Each method presents its own challenges. The focus of this Article is on the challenges presented to businesses that use an internal cloud platform. For a discussion of the many tax challenges that third-party cloud vendors face, see Mazur, *supra* note 1, at 13–49.

⁵ See I.R.C. § 482 (2012) (codifying the procedure for allocating income and deductions among related entities).

⁶ See *id.*; Treas. Reg. § 1.482-1 (as amended in 2012) (setting forth general guidelines to be followed in order to clearly reflect income attributable to controlled transactions and to prevent avoidance of taxes with respect to these transactions); ORG. FOR ECON. CO-OPERATION & DEV.,

Transfer pricing is of significant concern to both taxpayers and tax administrations, because the transfer pricing rules affect how profits and losses are allocated among related entities in different jurisdictions that transact with each other. As a result, transfer pricing impacts the amount of tax revenue a particular taxing jurisdiction can collect, as well as the overall amount of after-tax profits the MNE group realizes.⁷ To minimize intercompany price manipulation, the transfer pricing rules apply an arm's-length standard, which requires that the results of transactions between related taxpayers be consistent with the results that would have been realized if independent, unrelated parties had engaged in a comparable transaction under comparable circumstances.⁸ Cloud computing, however, exacerbates difficulties that already exist in determining an arm's-length price for many intercompany transactions in our global economy.⁹ This Article evaluates these challenges in the context of cloud computing and argues that even though the current transfer pricing rules create significant compliance risks for companies that use an intercompany cloud in their operations, these rules also present significant tax planning opportunities.¹⁰

In particular, with sufficient advance planning, companies can utilize the transfer pricing rules in a manner that will shift the MNE's income from the home jurisdiction to alternate low- or no-tax jurisdictions without a cor-

TRANSFER PRICING GUIDELINES FOR MULTINATIONAL ENTERPRISES AND TAX ADMINISTRATIONS 31–32 (2010) [hereinafter OECD TRANSFER PRICING GUIDELINES] (providing a background discussion of the arm's-length standard and setting forth guidelines for its application).

⁷ See I.R.C. § 482.

⁸ Treas. Reg. § 1.482-1(a)–(b) (describing the purpose and scope of the arm's-length standard); Diane M. Ring, *Risk-Shifting Within a Multinational Corporation: The Incoherence of the U.S. Tax Regime*, 38 B.C. L. REV. 667, 714 (1997) (noting that parent-subsidiary transactions require the transfer pricing between the parent and subsidiary to conform to market principles). The arm's-length standard is the internationally accepted standard underlying transfer pricing determinations. ORG. FOR ECON. CO-OPERATION & DEV., ADDRESSING BASE EROSION AND PROFIT SHIFTING 36 (2013), http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/addressing-base-erosion-and-profit-shifting_9789264192744-en#page1 [perma.cc/UDZ7-LNHH] [hereinafter OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING] (explaining the arm's-length standard); OECD TRANSFER PRICING GUIDELINES, *supra* note 6, at 31–32 (same); RICHARD L. DOERNBERG, INTERNATIONAL TAXATION IN A NUTSHELL 282 (9th ed. 2012) (identifying the arm's-length standard as the “standard used globally to resolve transfer pricing disputes”); Bret Wells & Cym Lowell, *Tax Base Erosion: Reformation of Section 482's Arm's Length Standard*, 15 FLA. TAX REV. 737, 745 (2014) (noting that the arm's-length standard has been the global standard since the 1920s). This Article focuses on the U.S. transfer pricing rules, which are similar in many respects to the transfer pricing rules of other countries.

⁹ See *infra* notes 22–112 and accompanying text (examining the challenges for MNEs trying to determine, plan for, and comply with their tax obligations under current law in the cloud context).

¹⁰ See *infra* notes 113–185 and accompanying text (describing how MNEs can significantly reduce their worldwide tax liability by arranging their corporate structures to take advantage of the transfer pricing rules).

responding change to their business operations.¹¹ By doing so, the MNE can lower its overall worldwide tax liability with the possibility of some income completely escaping taxation. This type of tax planning presents tremendous challenges for governments worldwide as it artificially shifts profits away from the jurisdictions where the activities creating those profits take place to jurisdictions with favorable tax regimes. The manipulation of the transfer pricing rules in this manner has become one of the largest contributors to base erosion and profit shifting, commonly referred to as “BEPS.”¹²

Many people, from academics, policymakers, and governments to the public and media outlets, have taken notice of the severity of the BEPS problem and have called for reform of the international tax rules.¹³ As a result of this increased political pressure, and in response to the request of the G20—a group comprised of representatives of the world’s largest economies—the Organisation for Economic Co-operation and Development (“OECD”) launched an action plan to implement the BEPS project (the “BEPS Action Plan”) in 2013.¹⁴ The BEPS Action Plan identifies fifteen action items that seek to address aggressive international tax planning in a coordinated and comprehensive manner by providing countries with “instruments that will better align rights to tax with economic activity.”¹⁵ Among the action items are actions to address the tax challenges of the digi-

¹¹ See OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 39.

¹² Yariv Brauner, *What the BEPS?*, 16 FLA. TAX REV. 55, 83 (2014) (observing that “[i]t is likely that the single largest contributor to the issues that triggered the attention to BEPS is the distortion created by implementation of transfer pricing valuation techniques by United States MNEs, supported by the courts’ endorsement of the arm’s length principle” (footnote omitted)); Ronald B. Davies et al., *Knocking on Tax Haven’s Door: Multinational Firms and Transfer Pricing*, VOX (Jan. 5, 2015), <http://www.voxeu.org/print/58429> [perma.cc/B43W-SYRR] (noting that “[w]hile there are many ways in which firms can shift profits to low-tax locations, the use of internal, or transfer, prices is seen as one of the most significant”).

¹³ See ORG. FOR ECON. CO-OPERATION & DEV., ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING 10 (2013), <http://www.oecd.org/ctp/BEPSActionPlan.pdf> [perma.cc/4XB3-K4J5] [hereinafter OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING]; Pascal Saint-Amans & Raffaele Russo, *What the BEPS Are We Talking About?*, OECD FORUM (2013), <http://www.oecd.org/forum/what-the-beps-are-we-talking-about.htm> [perma.cc/XL2L-W6FA]; Dhammika Dharmapala, *Base Erosion and Profit Shifting: A Simple Conceptual Framework* 1 (Coase-Sandor Inst. for Law & Econ., Working Paper No. 703, 2014).

¹⁴ See OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 11; OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 10–14; Saint-Amans & Russo, *supra* note 13. The Organisation for Economic Co-operation and Development’s (“OECD”) initiative on BEPS first led the OECD to publish a major report in February 2013 on aggressive international tax planning. OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 1. Then, in July 2013, the OECD published the BEPS Action Plan. OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 1.

¹⁵ OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 11. In addition to identifying the actions needed to address BEPS, the BEPS Action Plan also sets deadlines to implement these actions, and identifies the resources needed and methodology to implement these actions. *Id.*

tal economy, as well as actions to assure that transfer pricing outcomes are in line with value creation.¹⁶ Although cloud computing is not the focus of the action items addressing transfer pricing issues, intercompany cloud-based activities fundamentally involve the transfer pricing rules, which can affect the success of the BEPS Action Plan.

Currently, no guidance exists on the application of the transfer pricing rules to cloud computing transactions. Instead, MNEs are left to apply the current rules to these transactions despite the significant challenges that doing so creates. Furthermore, although the BEPS issue has received a lot of scholarly attention, the literature has not addressed the transfer pricing challenges created in the cloud computing context that need to be overcome to successfully resolve BEPS.¹⁷

This Article seeks to fill the void in the literature by analyzing the transfer pricing compliance risks that arise for MNEs that use an intercompany cloud in their operations and evaluating how these conditions create opportunities for MNEs to structure their cloud operations to minimize their tax liability. In assessing how the cloud business model contributes to BEPS, this Article seeks to contribute to the current discussion by present-

¹⁶ See *id.* at 14–15, 20–21. Action Item 1, together with the more general action items that will also address BEPS concerns in the context of the digital economy, seek to address the specificities that need to be taken into considerations in order to address the tax challenges of the digital economy. *Id.* at 14–15. Action Items 8 to 10 seek to assure that transfer pricing outcomes are in line with value creation. *Id.* at 20–21. In addition, Action Item 13 will re-examine transfer pricing documentation to develop rules to enhance transparency for tax administration. *Id.* at 23. Other action items set forth in the BEPS Action Plan include actions to neutralize the effects of hybrid mismatch arrangements (Action Item 2), actions to strengthen controlled foreign company rules (Action Item 3), actions to limit base erosion via interest deductions and other financial payments (Action Item 4), actions to counter harmful tax practices more effectively, taking into account transparency and substance (Action Item 5), actions to prevent treaty abuse (Action Item 6), actions to prevent the artificial avoidance of permanent establishment status (Action Item 7), actions to establish methodologies to collect and analyze data on BEPS and the actions to address it (Action Item 11), actions to require taxpayers to disclose their aggressive tax planning arrangements (Action Item 12), actions to make dispute resolution mechanisms more effective (Action Item 14), and actions to develop a multilateral instrument (Action Item 15). *Id.* at 15–24.

¹⁷ See generally, e.g., Hugh J. Ault et al., *Base Erosion and Profit Shifting: A Roadmap for Reform*, 68 BULL. INT'L TAX'N 275 (2014) (providing insight into the problems and proposed solutions associated with BEPS); Brauner, *supra* note 12 (reviewing the progress of the BEPS project and suggesting a paradigm shift from the current emphasis on competitiveness to a collaborative international tax regime); Arthur Cockfield, *BEPS and Global Digital Taxation*, 75 TAX NOTES INT'L 933 (2014) (discussing OECD BEPS reforms regarding cross-border income taxes); Dhammika Dharmapala, *What Do We Know About Base Erosion and Profit Shifting? A Review of the Empirical Literature*, 35 FISCAL STUD. 421 (2014) (exploring the empirical literature associated with BEPS and providing a framework within which to understand the magnitude and implications of BEPS); Michael V. Sala, *Breaking Down BEPS: Strategies, Reforms, and Planning Responses*, 47 CONN. L. REV. 2 (2014) (setting forth strategies, reforms, and planning responses to the problem of BEPS); Wells & Lowell, *supra* note 8 (explaining the BEPS problem and evaluating potential reforms under consideration to solve the problem).

ing additional elements and concrete solutions that should be taken into account to better address the problems raised by our current transfer pricing regime.

The Article proceeds as follows: Part I analyzes the difficulties that MNEs confront when trying to determine the arm's-length price of inter-company cloud computing transactions.¹⁸ Part I also discusses how cloud computing changes the economic activity of a business and the manner in which value is created, which contributes to these difficulties.¹⁹ In Part II, the Article discusses how the mainstream use of cloud computing has the potential to significantly contribute to BEPS by increasing the likelihood that this type of base erosion will accelerate.²⁰ Specifically, Part II considers how BEPS strategies can manifest in the cloud computing context and argues that the fundamental features of cloud computing make some of the more difficult transfer pricing problems that already exist more common. Finally, Part III discusses the BEPS Action Plan and its recommendations for reform.²¹ Part III concludes that although the OECD's work with respect to the BEPS Action Plan is commendable in that it seeks to find solutions to extremely difficult issues in an internationally coordinated manner, an international tax reform solution that adopts formulary apportionment or the profit-split methodology on a coordinated global basis would better address BEPS and minimize the undesirable policy results of our current transfer pricing rules.

I. TAX CHALLENGES TO COMPANIES

The transfer pricing rules apply whenever companies in a controlled group transact with each other.²² Therefore, MNEs that move their operations to an internal cloud platform must apply the transfer pricing rules to determine an arm's-length price for cloud computing transactions that occur within the MNE group. The international tax regime, including the transfer pricing rules, however, has not kept up with the technology evolution.²³ This has created challenges for MNEs trying to determine, plan for, and comply with their tax obligations under current law and may give rise to double taxation or non-taxation if taxpayers and tax administrations reach

¹⁸ See *infra* notes 22–112 and accompanying text.

¹⁹ See *infra* notes 79–112 and accompanying text.

²⁰ See *infra* notes 113–185 and accompanying text.

²¹ See *infra* notes 186–250 and accompanying text.

²² See I.R.C. § 482.

²³ See OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 5; Brauner, *supra* note 12, at 65, 70; *EY Roundtable: Taxing the Cloud*, J. INT'L TAX'N, Apr. 2014, at 39, 40 [hereinafter *EY Roundtable*] (noting that international standards for taxation of the cloud are outdated).

different conclusions as to how the transfer pricing rules apply in the cloud context.

This Part analyzes the tax compliance challenges that MNEs operating in the cloud face.²⁴ Section A highlights the difficulties that exist in identifying the best method to use as a benchmark to support the pricing of intercompany cloud computing services rendered. These difficulties primarily arise because it is uncertain how existing law characterizes cloud-based transactions for transfer pricing purposes. Section B discusses some of the challenges in identifying the value-drivers in an intercompany cloud computing transaction, which in turn lead to challenges in finding comparable transactions to use as a benchmark to price the cloud-based activities. Section C considers how the nature of the cloud also makes it difficult to determine the location of the value-drivers in a cloud-based business. As a result, MNEs operating in the cloud face difficulties in determining each group member's economic contribution and the associated transfer pricing charge under the arm's-length standard.

A. Determination of the Best Method

One of the difficulties that MNEs face in determining the arm's-length price of cloud computing services is selecting which transfer pricing method to use.²⁵ The U.S. transfer pricing regulations set forth specific methods to be used to determine the arm's-length consideration for controlled transactions.²⁶ The methods available to evaluate a transaction under the arm's-length standard depend on the character of the transaction for tax purposes.²⁷ Therefore, from a transfer pricing perspective, the transaction's characterization is significant because it affects the determination of the best method to evaluate the pricing of the cloud computing services rendered.²⁸ Neither the U.S. transfer pricing rules nor any other regulatory guidance specifically addresses how to characterize cloud computing transactions.²⁹

²⁴ See *infra* notes 25–112 and accompanying text.

²⁵ Orly Mazur, *Tax Challenges in the Cloud*, 19 J. INTERNET L. 3, 6 (2015).

²⁶ Treas. Reg. §§ 1.482-1(b)(2), 1.482-2 (as amended in 2011).

²⁷ See Treas. Reg. §§ 1.482-1(b)(2), 1.482-2. Within the range of available methods, the transfer pricing rules require the use of the best method: the method that, under the facts and circumstances, provides the most reliable measure of an arm's-length result. See Treas. Reg. § 1.482-1(b), (d).

²⁸ See Treas. Reg. § 1.482-1(c)(1); *Transfer Pricing Times: Volume X, Issue 4*, DUFF & PHELPS (Apr. 23, 2013), <http://www.duffandphelps.com/expertise/publications/pages/ArticleDetail.aspx?itemid=308&list=Articles> [perma.cc/E72K-KQ4T] [hereinafter DUFF & PHELPS].

²⁹ See Treas. Reg. § 1.482-1; ORG. FOR ECON. CO-OPERATION & DEV., ADDRESSING THE TAX CHALLENGES OF THE DIGITAL ECONOMY, ACTION 1: 2015 FINAL REPORT 104 (2015) [hereinafter OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY]; Sterling D. Jones, *Transfer Pricing the Cloud: Tax Characterization of International Trade of Digital Goods and Services Between Related Parties*, 6 ECON. NETWORKS EJOURNAL, no. 60, June 2014, at 1, 11,

Instead, companies must rely on traditional characterization principles to determine the character of the transaction. This results in several plausible characterizations. Because each characterization gives rise to a different range of available transfer pricing methods, this exposes MNEs to the risk that the tax administration will challenge whether the selected method is the best method for measuring the arm's-length price.

1. Transfer of a Tangible or Intangible Asset

One possible characterization of the intercompany transfer of cloud computing resources is to treat it as the transfer of a tangible or intangible asset, depending on the quantity and quality of rights and burdens transferred in the transaction. The cloud computing transaction may be characterized as such if the transaction falls within the scope of the software regulations.³⁰ To fall within the scope of the software regulations, a transaction generally must (1) relate to a computer program and (2) involve the transfer of a computer program, the provision of services for the development or modification of a computer program, or the provision of know-how with respect to a computer program.³¹ The definition of a computer program includes any media, user manuals, documentation, database, or similar items that are incidental to the operation of the computer program.³² Based on this language, a cloud arrangement that includes access to the company's software or associated databases, documentation, or similar items satisfies the definition of a computer program and meets the first requirement.³³

It is unclear whether a cloud transaction satisfies the second requirement because it is uncertain whether there has been a *transfer* of the computer program.³⁴ Before moving to the cloud, affiliates using the computer

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2460138 [perma.cc/Q9TG-TMXC] (noting the lack of guidance regarding cloud computing goods or services); Anne Welsh et al., *Can Clouds Change Shapes? Transfer Pricing Considerations for Cloud Computing*, 64 TAX NOTES INT'L 147, 149 (2011).

³⁰ Mazur, *supra* note 1, at 16; Welsh et al., *supra* note 29, at 149. The software regulations were promulgated by the U.S. Department of the Treasury ("the Treasury") in 1998 to provide guidance in classifying international transactions involving computer programs, including for purposes of the transfer pricing rules. Treas. Reg. § 1.861-18(a)(1) (as amended in 1998); T.D. 8785, 1998-42 I.R.B. 5 (1998).

³¹ Treas. Reg. § 1.861-18(a), (b)(1). For purposes of the software regulations, a "computer program" is "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result" and includes databases or similar items if it is "incidental to the operation of the computer program." *Id.* § 1.861-18(a)(1), (a)(3), (b)(1).

³² *Id.* § 1.861-18(a)(3).

³³ See Mazur, *supra* note 1, at 17 (asserting that a cloud computing transaction relates to a computer program within the meaning of the software regulations).

³⁴ See Treas. Reg. § 1.861-18(a), (b)(1) (providing classifications of transactions involving computer programs).

program would either receive a physical copy of the software or would download an electronic copy to the computer where it was installed.³⁵ But by moving to the cloud, the owner of the computer program no longer transfers a physical or electronic copy of the computer program to the related entities for use.³⁶ Instead, these entities merely access the software and data through the Internet. They also no longer bear the risks associated with maintenance of the software and the underlying hardware.³⁷ Moreover, for purposes of calculating the production activities deduction under section 199, the U.S. Department of the Treasury (“the Treasury”) has taken the position that transactions that provide customers with access to online software do not constitute a transfer unless customers can obtain a copy of the software either on a disk or through download from the Internet.³⁸ Although this expresses the Treasury’s view in a different context, it illustrates that in certain circumstances online access to software may be treated differently than a transfer by physical disk or download for tax purposes. Thus, on the one hand, there is a strong argument that allowing affiliated entities to access the company’s software in the cloud does not result in a “transfer” of the computer program. Under this line of reasoning, the transaction will likely be characterized as the provision of services.³⁹ As further discussed below in subsection 2, specific transfer pricing methods are available to price intercompany services transactions.⁴⁰

On the other hand, it is also possible to argue that the software regulations apply to cloud computing transactions. The software regulations specify that the rules apply “irrespective of the physical or electronic or other medium used to effectuate the transfer of a computer program.”⁴¹ Thus, if the cloud activities merely constitute a mode of delivery of the computer program, then the cloud computing activities may be within the scope of the software regulations. This is especially true in circumstances where sufficient

³⁵ Mazur, *supra* note 1, at 17 n.49.

³⁶ *Id.* at 17; Welsh et al., *supra* note 29, at 150.

³⁷ See Mazur, *supra* note 1, at 17 (noting that a “cloud vendor bears a significant portion of the risk and retains most of the control over the computer program”).

³⁸ See Treas. Reg. § 1.199-3(i)(6) (as amended in 2015); T.D. 9317, 2007-16 I.R.B. 2 (2007); Mazur, *supra* note 1, at 17 (distinguishing online access of software from physical access through a tangible medium); Welsh et al., *supra* note 29, at 150 (noting that the software regulations do not explicitly address situations in which a user may access software without first obtaining a physical copy of it).

³⁹ See, e.g., Mazur, *supra* note 1, at 16–18 (explaining that if cloud computing falls outside the scope of Treasury Regulations section 1.861-18, then it could likely be characterized as a service); Welsh et al., *supra* note 29, at 150 (same); KPMG INT’L, *supra* note 3, at 7 (same); DUFF & PHELPS, *supra* note 28 (same).

⁴⁰ See *infra* notes 46–69 and accompanying text.

⁴¹ Treas. Reg. § 1.861-18(g)(2); see Welsh et al., *supra* note 29, at 150 (citing Treas. Reg. § 1.861-18(g)(2)).

rights and burdens of ownership are transferred to the recipient of the cloud computing services.⁴² Under these circumstances, the transaction would not be characterized as the provision of services.⁴³ Instead, the cloud computing transaction would be characterized in the same manner that the transaction would have been characterized before the move to the cloud: either as the transfer of a tangible asset or the transfer of an intangible asset.⁴⁴ A different range of transfer pricing methods would be required to determine the arm's-length price of the transfer of tangible or intangible assets than the methods used to price the provision of services.⁴⁵

2. Provision of Services

Another plausible, and arguably more likely, characterization is that cloud-based transactions are classified as the provision of services. As discussed above, there is a strong argument that in most cloud computing transactions there is no transfer of a computer program and therefore the transaction falls outside the scope of the software regulations.⁴⁶ If the soft-

⁴² See KPMG INT'L, *supra* note 3, at 7 (noting that in some cloud transactions a right may be transferred to a customer); Welsh et al., *supra* note 29, at 150 (asserting that it may be "inappropriate to focus on whether there is an actual transfer of a copy of the software provided the user has the right and ability to control the software applications").

⁴³ The software regulations only classify a transaction as services if the transaction involves "the provision of services for the development or modification of [a] computer program" or "the provision of know-how with respect to a computer program." Treas. Reg. § 1.861-18(a), (b)(1). Cloud-based services often times do not involve the development or modification of a computer program or the provision of know-how with respect to a computer program. Mazur, *supra* note 1, at 18 (citing Treas. Reg. § 1.861-18(a), (b)(1)).

⁴⁴ See Mazur, *supra* note 1, at 16–18 (exploring how to characterize income derived from cloud transactions); Welsh et al., *supra* note 29, at 149–50 (noting that if this approach is followed "the movement to the cloud would not change the pre-cloud analysis of the transactions as transfers of tangible goods or intangibles").

⁴⁵ If the transaction is characterized as the transfer of a copyright-protected article, which from a transfer pricing perspective is treated as the transfer of a tangible asset, then the transfer pricing rules provide that the arm's-length amount charged must be determined under the comparable uncontrolled price method, the resale price method, the cost plus method, the comparable profits method, the profit split method, or an unspecified method that is consistent with these methods. Treas. Reg. § 1.482-3(a) (as amended in 1995); Welsh et al., *supra* note 29, at 149 n.14. If the transaction is characterized as the transfer of a copyright, which from a transfer pricing perspective is likely treated as the transfer of an intangible asset, then the transfer pricing rules provide that the arm's-length amount charged must be determined under the comparable uncontrolled transaction method, the comparable profits method, the profit split method, or an unspecified method that is consistent with these methods. Treas. Reg. § 1.482-4(a) (as amended in 2011); Welsh et al., *supra* note 29, at 149–50 n.14.

⁴⁶ See, e.g., Mazur, *supra* note 1, at 17 (arguing that it is unclear whether a cloud computing transaction involves the transfer of a computer program); Welsh et al., *supra* note 29, at 150 (explaining that "the absence of an actual transfer of the software would essentially remove the transactions from the scope of the software regulations"); KPMG INT'L, *supra* note 3, at 7 ("In many, if not most [c]loud transactions, there will be no such transfer [of a computer program] . . ."); DUFF & PHELPS, *supra* note 28 (noting that because cloud computing does not involve an actual transfer

ware regulations do not apply, then under traditional characterization principles, the transaction's characterization depends to a large extent on whether a transfer of property rights exist.⁴⁷ In this situation, "[i]f no property right exists either in form or in substance, the transaction is generally characterized as the provision of services."⁴⁸

Under current case law, this determination depends to a large extent on which party bears the risk with respect to the transaction and which party retains control over how the transaction is carried out.⁴⁹ Although this depends on the particular facts and circumstances of the cloud arrangement, in many cloud computing transactions the entity acting as the cloud service provider bears substantial risk of loss and retains control and possession over the software, applications, and underlying infrastructure.⁵⁰ Under these circumstances, the cloud service provider is not giving up any property rights in the software, applications, or infrastructure used in connection with the cloud computing transaction.⁵¹ Thus, moving to the cloud may cause intercompany cloud computing transactions to be treated as services under the U.S. transfer pricing rules.⁵²

If cloud computing transactions are treated as the intercompany provision of services, then the transfer pricing rules require the arm's-length amount charged to be determined under one of the following methods: (1) the services cost method ("SCM"), (2) the comparable uncontrolled services price method, (3) the gross services margin method, (4) the cost of services

of software, it can be argued that cloud computing transactions fall outside the scope of the software regulations); *see also supra* notes 25–78 and accompanying text (detailing the difficulties MNEs face in selecting which transfer pricing method to use to determine the arm's-length price of cloud computing services).

⁴⁷ *See Mazur, supra* note 1, at 23; KPMG INT'L, *supra* note 3, at 7.

⁴⁸ *Mazur, supra* note 1, at 23; *see, e.g., Karrer v. United States*, 152 F. Supp. 66, 72 (Ct. Cl. 1957) (characterizing an employee's rights as services income because the employee's rights derive from services to the employer and not from any property that the employee owns); *Boulez v. Comm'r*, 83 T.C. 584, 595 (1984) (holding that a conductor did not have a property right in a recording because no copyright existed and thus the transaction to make a recording under the conductor's direction was a provision of services).

⁴⁹ *See Mazur, supra* note 1, at 24 (noting that the determination for whether a cloud customer possesses any property rights generally requires an analysis of risk and control); *see also Rev. Rul. 74-555, 1974-2 C.B. 202* (illustrating how an author may characterize certain income derived from a work as royalties rather than compensation for services if the publisher lacks control over the work); Richard H. Lilley Jr., *Cloud Computing: Permanent Establishment and Its Implications for International Taxation*, TAX MGMT. TRANSFER PRICING REP.: SPECIAL REP. (July 10, 2014) (listing factors relevant in characterizing an arrangement as a service or a lease, which include risk with respect to the transaction and control over the property).

⁵⁰ *See Mazur, supra* note 1, at 24 (observing that in many cloud transactions the cloud vendor bears the risk of loss and retains significant control).

⁵¹ *See id.*

⁵² *See Welsh et al., supra* note 29, at 147 (asserting that moving to the cloud may allow cloud transactions to be treated as the provision of services).

plus method, (5) the comparable profits method, (6) the profit split method, or (7) unspecified methods applied consistently with the other methods.⁵³ Although most of these methods are conceptually the same as the methods used to price intercompany transfers of tangible and intangible assets, if the MNE group chooses to use the SCM, this can result in a substantially different arm's-length price for the cloud-based transactions.⁵⁴

The SCM is a cost safe harbor that permits certain non-integral services to be priced by reference to the total services cost without any markup.⁵⁵ The SCM is not available for pricing the transfer of tangible or intangible assets. To qualify for this method, several requirements must be met. First, the intercompany service must meet the definition of a specified covered service, as identified by the IRS Commissioner through revenue procedure, or alternatively, as low margin covered services.⁵⁶ The types of services that qualify are support services that are common among taxpayers across industry segments and generally do not involve a significant arm's-length markup on total service costs.⁵⁷ For instance, supporting company-wide computer systems, maintaining and repairing IT systems, providing technical assistance to users of computer systems and other IT devices, maintaining and testing computer databases, supporting, maintaining and monitoring an organization's existing network system, and similar IT activities may qualify for the SCM. These types of activities, however, cannot qualify for the SCM to the extent they include analyzing user needs or developing hardware or software solutions unless the activities constitute low margin services.⁵⁸ A covered service activity will also not qualify unless the

⁵³ Treas. Reg. § 1.482-9(a) (as amended in 2011).

⁵⁴ See Welsh et al., *supra* note 29, at 149–51 (explaining how even though many of the methods used to price intercompany services, the intercompany transfer of tangible goods, and the intercompany transfer of intangible goods may be conceptually the same, the application of the rules in these different contexts may vary significantly).

⁵⁵ See Treas. Reg. § 1.482-9(b).

⁵⁶ *Id.* § 1.482-9(b)(2)–(3). Low margin covered services are intercompany services transactions for which the median comparable markup on total services costs is less than or equal to 7%. *Id.* § 1.482-9(b)(3)(ii).

⁵⁷ *Id.* § 1.482-9(b)(3)(i). Other types of support services that qualify are payroll activities, activities related to processing unemployment, disability and workers compensation premiums, activities related to working with accounts receivable and accounts payable, general administrative activities, corporate and public relations activities, coordinating meetings and travel, accounting and auditing activities, activities related to complying with the company's tax obligations, health, safety, environmental, and regulatory affairs activities, budgeting, treasury activities, statistical assistance, staffing and recruiting, training and employee development, benefits, legal services, insurance claims management, and purchasing. Rev. Proc. 2007-13, 2007-3 I.R.B. 295.

⁵⁸ Rev. Proc. 2007-13, 2007-3 I.R.B. 295. Activities that do not qualify for the SCM include developing systems integration, designing websites, writing computer programs, modifying general applications software, or recommending the purchase of commercially available hardware or software. *Id.*

taxpayer can reasonably conclude, in its business judgment, that “the service does not contribute significantly to key competitive advantages, core capabilities, or fundamental risks of success or failure in one or more trades or businesses of the controlled group.”⁵⁹ Additionally, to be eligible to be priced under the SCM, the intercompany service cannot consist of an excluded activity, such as production, distribution, or research and development, and adequate books and records must be maintained.⁶⁰

Based on the particular facts and circumstances of the cloud arrangement, it is possible that in certain situations the intercompany provision of cloud services will qualify for the SCM. Consider the following example. USCo., a U.S. corporation, develops proprietary software that it maintains and hosts on its own computer infrastructure and which it allows XCo., a related foreign corporation, to access remotely.⁶¹ Assuming that the software is an enterprise resource planning system that is used by the MNE group to maintain data relating to accounts payable and receivable, it is possible that this non-customer-facing application does not contribute significantly to the fundamental risks of the success of the business.⁶² Thus, USCo. may be eligible to charge these services to XCo. using the SCM because activities related to working with accounts receivable and accounts payable are specified as covered services.⁶³ This would include the cost of maintaining the computer infrastructure and networks that are being used to host the software and related data, as well as any IT support that USCo. provides to XCo. But any services performed by USCo.’s IT personnel that relate to modifying or developing the software or hardware system will not be eligible for the SCM and will need to be evaluated separately using one of the other transfer pricing methods available for pricing intercompany services.⁶⁴

⁵⁹ Treas. Reg. § 1.482-9(b)(2), (5) (prohibiting application of the services cost method to services that fall under the business judgment rule).

⁶⁰ *Id.* § 1.482-9(b)(2), (4), (6). Even though these types of activities are excluded and do not qualify for the SCM, a cloud-based activity that involves the use of software that performs these types of activities does not necessarily constitute an excluded activity. Welsh et al., *supra* note 29, at 151 (distinguishing excluded activities from the supply of software packages that facilitate those activities). Instead, the provision of a service via the cloud should be analyzed based on the nature of the underlying service being provided. *Id.*

⁶¹ This modified example is based on the example set forth in Treas. Reg. § 1.482-9(b)(8) ex. 12.

⁶² *See id.* (providing an example of a business situation where certain services would not contribute to the risks of success of a business).

⁶³ *See* Welsh et al., *supra* note 29, at 151–52 (detailing activities that are considered covered services within the meaning of Revenue Procedure 2007-13).

⁶⁴ An exception exists if these activities constitute low margin services. Treas. Reg. § 1.482-9(b)(2)–(3), (8) ex. 12. Whether the exception exists depends on which companies the taxpayer identifies as comparable companies for the purposes of determining a benchmark. Welsh et al., *supra* note 29, at 152.

To the extent the SCM is available, this would generally be beneficial to the MNE group. Pursuant to the SCM, USCo. would charge XCo. the costs of rendering the eligible cloud computing services without any profit markup.⁶⁵ If multiple members of the controlled group also receive the benefit of these services, then those costs would be allocated among those members based on the relative benefits that each receives.⁶⁶ Because the SCM is relatively a much simpler method than the other methods available to price intercompany services, this would minimize the MNE group's compliance burdens in pricing the intercompany services. Use of the SCM, as opposed to the other available transfer pricing methods, might also benefit the MNE group because the arm's-length consideration paid to USCo. will likely be smaller under the SCM than the other available transfer pricing methods due to the fact that USCo. does not have to increase the cost it charges its affiliates by any profit markup. Thus, a smaller amount of the MNE group's profits would be allocated to the United States, a high tax jurisdiction, which may minimize the overall tax liability of the MNE group.

Furthermore, if the cloud computing transaction qualifies for the SCM, then such services may also be the subject of a shared services arrangement ("SSA") between the parties using and providing the cloud services.⁶⁷ Under an SSA, the arm's-length charge to each participant for the services is the participant's share of the total services costs allocated to the participant based on its respective share of the reasonably anticipated benefits from the services.⁶⁸ If the taxpayer reasonably concludes that the SSA allocates costs for these services on a basis that most reliably reflects the participants' respective shares of the reasonably anticipated benefits attributable to such services, then the taxpayer may reduce its compliance risks because the tax administration may not adjust the basis used for the allocation.⁶⁹

⁶⁵ See Treas. Reg. § 1.482-9(b)(1) (codifying the services cost method).

⁶⁶ See Treas. Reg. § 1.482-9(k) (noting that "costs must be allocated among the portions of the activity performed for the benefit of the first mentioned recipient and such other members of the controlled group"). Any reasonable method may be used to allocate the costs of providing the intercompany service. *Id.* As some commentators have noted, this may present difficulties in finding an appropriate basis by which to allocate costs because traditional stationary metrics may no longer be a reliable measurement. *E.g.*, Welsh et al., *supra* note 29, at 152.

⁶⁷ See Treas. Reg. § 1.482-9(b)(7) (providing guidance on what constitutes a shared services arrangement); Welsh et al., *supra* note 29, at 152 (describing the arm's-length charge between participants in a shared services agreement).

⁶⁸ Treas. Reg. § 1.482-9(b)(7); Welsh et al., *supra* note 29, at 152.

⁶⁹ Treas. Reg. § 1.482-9(b)(7). However, cloud computing transactions may also involve the development or modification of software, which do not qualify as covered services and therefore are ineligible for treatment under an SSA. *Id.*; Welsh et al., *supra* note 29, at 152–53. If the parties are treated as jointly developing software, then the service costs related to development would likely be treated as a cost-sharing arrangement, instead of an SSA pursuant to the U.S. transfer pricing rules. Welsh et al., *supra* note 29, at 152–53.

3. Integrated Transaction

It is also possible that a cloud-based transaction may be characterized as the provision of services but that elements of the transaction will be characterized as the transfer of a tangible or intangible asset.⁷⁰ This characterization is plausible, because pursuant to the transfer pricing rules, different transfer pricing methods may be applied to an interrelated transaction if such transaction is most reliably evaluated on a separate basis.⁷¹ Given the multiple services that an entity operating as a cloud service provider may offer to its affiliates—some of which are similar to the transfer of a computer program whereas others are in the nature of true services—a cloud computing transaction may need to be analyzed as two separate transactions for purposes of determining the appropriate transfer price.⁷² If this is the appropriate characterization for transfer pricing purposes, then different transfer pricing methods may apply to the separate elements of the transaction, which may result in a different arm's-length consideration.⁷³

In summary, cloud computing transactions do not neatly fall within any of the traditional tax classifications. This creates compliance challenges for MNEs using an intercompany cloud. It is currently unclear whether cloud computing transactions involve the transfer of a computer program under existing tax law. As a result, it is possible that transacting in the cloud may change a transaction's characterization from the transfer of a tangible or intangible asset to the provision of services.⁷⁴ The flexible nature of cloud computing also contributes to the difficulties in characterizing cloud-based activities, because companies may use different cloud business models to structure their operations. Thus, there is no simple way to characterize cloud computing transactions and each of the characterizations discussed above represent plausible alternatives. Because the appropriate transfer

⁷⁰ See Mazur, *supra* note 1, at 25 (noting that software regulations could apply only to a portion of the cloud transaction); Welsh et al., *supra* note 29, at 152 (providing an example of when a single activity may be divided and evaluated separately under different methods).

⁷¹ See Treas. Reg. § 1.482-1(b)(2)(ii) (allowing for application of different methods to interrelated transactions); Treas. Reg. § 1.482-9(m)(4) (stating that a transaction may be evaluated separately when doing so provides the most reliable measure of an arm's-length result). But note that if the cloud computing transactions, taken as a whole, are so interrelated that consideration of multiple transactions as an integrated transaction is the most reliable means of determining the arm's-length consideration for the intercompany transactions, then it may be possible to evaluate the transactions together as either an intercompany service or the intercompany transfer of assets. See Treas. Reg. § 1.482-1(f)(2) (allowing for aggregation of transactions); Treas. Reg. § 1.482-9(m)(4).

⁷² See Treas. Reg. § 1.482-9(m)(4); Welsh et al., *supra* note 29, at 152 (discussing the coordination provision contained in Treasury Regulations section 1.482-9).

⁷³ See Treas. Reg. § 1.482-1(b)(2)(ii).

⁷⁴ See DUFF & PHELPS, *supra* note 28 (noting that because cloud computing does not involve actual transfers of software, it could be argued that cloud computing instead could be characterized as a service).

pricing methodology used to test the transaction is dependent on the transaction's characterization, this determination will significantly impact the benchmarking analysis required to support the intragroup transaction as arm's-length.⁷⁵ Moreover, within the range of available methods, it is not always clear which method is the "best method."⁷⁶ MNEs and tax administrations may disagree as to which method provides the most reliable measure of an arm's-length result.⁷⁷ To further complicate matters, as the cloud computing business model continues to evolve, the possible classification of the transaction is also likely to change.⁷⁸

B. Identifying the Value-Drivers

Identifying the value-drivers of an MNE group is a critical component in determining the arm's-length consideration for an intercompany transaction. Pursuant to the transfer pricing rules, the arm's-length price will generally be determined "by reference to the results of comparable transactions under comparable circumstances."⁷⁹ In order to make this determination, an MNE must first delineate each activity performed that contributes to the

⁷⁵ See KPMG INT'L, *supra* note 3, at 7 (asserting that "the correct classification of the underlying transaction is fundamental to the tax treatment"); DUFF & PHELPS, *supra* note 28 (discussing the implications stemming from the characterization of cloud transactions). To minimize compliance risks and manage these uncertainties, MNEs should strategically structure their cloud operations and intercompany contracts prior to beginning operations in a manner that enables them to define and document the various intercompany transactions in the supply chain and support their transfer pricing methodology. See *EY Roundtable*, *supra* note 23, at 42–43.

⁷⁶ Laurie Dicker, *How Is Your Cloud Taxable: New Transfer Pricing Analysis for New Business Paradigms*, ALVAREZ & MARSAL HOLDINGS, LLC (Dec. 1, 2011), <http://www.alvarezandmarsal.com/how-your-cloud-taxable-new-transfer-pricing-analysis-new-business-paradigms> [perma.cc/S76S-B666] [hereinafter ALVAREZ & MARSAL].

⁷⁷ *Id.*; see Treas. Reg. § 1.482-1(d) (providing factors to be used in determining whether a controlled transaction produces an arm's-length result). This determination is generally made by comparing the results of the intercompany transaction to the results realized by independent taxpayers in a comparable transaction under comparable circumstances. Treas. Reg. § 1.482-1(d).

⁷⁸ It is likely that businesses will move away from pure cloud transactions that currently do not involve the transfer of any property and move to cloud transactions that involve the transfer of significant property rights, such as control over the software, perpetual rights to use the software even after payments terminate, or risk of loss associated with the software. See Franck Llinas et al., *Cloud Activities: Check Your Tax Forecasts*, TRANSFER PRICING INT'L J., Dec. 20, 2013, at 1, 1; KPMG INT'L, *supra* note 3, at 7 (describing a continuum from "pure cloud transactions where no property is transferred through to transactions where property is transferred together with perpetual rights to use once payments cease"). Moreover, another cloud-based business model is already beginning to develop, wherein the cloud service provider delivers an entire business process to an affiliate rather than merely access to software, infrastructure, or computing capacity. See Welsh et al., *supra* note 29, at 153 (discussing "business process as a service" as a potential direction in which cloud computing may be headed).

⁷⁹ Treas. Reg. § 1.482-1(b)(1).

overall profit of the MNE group.⁸⁰ These activities are the intercompany transactions that need to be evaluated for transfer pricing purposes. This analysis requires an evaluation of the functions performed by the parties, the assets used, the risks assumed, and the other economically relevant characteristics of the transaction and the overall business operations of the MNE group.⁸¹ At the same time, the cloud business model raises fundamental questions regarding how value is added, which creates difficulties in isolating the value-drivers, and therefore the relevant comparables, for an MNE group operating in the cloud.⁸²

In particular, the flexible and integrated nature of the cloud creates numerous possibilities as to where the value of the cloud-based business resides.⁸³ Currently, no framework exists for determining which possibilities are right and which are wrong.⁸⁴ Consider, for example, a multinational media networking company, Media Co., that provides customers with online access to media content. The MNE has subsidiaries operating domestically and abroad that provide streaming services to customers in exchange for a monthly subscription fee. In providing these streaming services, the subsidiaries use proprietary software developed and owned by Media Co. that is hosted on Media Co.'s computer infrastructure. To determine the appropriate transfer prices for its intercompany transactions, the MNE group needs to identify the transactions that generate value, and therefore profit, for the MNE group. But what are all the value-drivers in the MNE's global supply chain that will impact whether the business succeeds?

One potential value-driver is the server infrastructure that hosts the software, data, and related functionality. It is possible, but not certain, that operating a web server itself can be treated as engaging in an economically significant activity, in which case a value needs to be placed on that web

⁸⁰ See DAVID E. HARDESTY, *Electronic Commerce Services*, in ELECTRONIC COMMERCE: TAXATION AND PLANNING ¶ 13A.02, at 8–9 (2016) (illustrating by example the process for identifying each activity performed that contributes to the overall profit of a MNE).

⁸¹ See Treas. Reg. § 1.482-1(d) (listing factors relevant to determining the comparability of transactions).

⁸² See Jones, *supra* note 29, at 10 (noting that “taxing authorities as well as MNEs have fundamental questions regarding how value is added, where profits are generated, and how these questions fit within the existing framework”); Lilley, *supra* note 49 (emphasizing the obstacles involved in determining value-drivers in a cloud transaction); ALVAREZ & MARSAL, *supra* note 76 (observing that “businesses are finding inventive new services to offer and non-traditional new ways to derive value from such services”).

⁸³ See EY Roundtable, *supra* note 23, at 43 (describing the challenge in trying to determine where value-drivers actually sit); Lilley, *supra* note 49 (noting how focusing on the physical location of a cloud transaction may result in a failure to comprehensively determine the relevant value drivers involved).

⁸⁴ EY Roundtable, *supra* note 23, at 43.

server operation.⁸⁵ For instance, the IT infrastructure that the MNE uses adds value to the company, because it affects the reliability, speed, and security of the system, as well as the quality of the operation of the software and therefore the quality of the streaming services that customers ultimately receive.⁸⁶ But treating the IT hardware, such as servers, as a significant value-driver creates uncertainties in determining how to value this economic activity. In particular, issues arise because many cloud computing services can be provided without any people or with very few people involved.⁸⁷ This can create difficulties because current law has traditionally viewed human individuals as service providers and valued the services based on the activities such personnel perform.⁸⁸ When complex virtual networks and machines, rather than human individuals, provide important components of the supply chain, this challenges how to attribute value to the performance of these services.⁸⁹

If the server activities are treated as a service provider with respect to the cloud computing services, then the activities of an independent cloud vendor may serve as a benchmark for the intercompany price if considered comparable to Media Co.'s intercompany transactions.⁹⁰ But in evaluating the comparability of the unrelated cloud services, several challenges arise.⁹¹ In particular, the nature of the services provided may vary significantly among cloud service providers, which may challenge an MNE's ability to make necessary comparability adjustments. For instance, in the example above, the servers provide multiple services, such as hosting the software,

⁸⁵ See HARDESTY, *supra* note 80, at 1–2 (recognizing that operating a web server by itself can constitute a business activity).

⁸⁶ See IRS, UNITED STATES MODEL INCOME TAX CONVENTION OF NOVEMBER 15, 2006, at 9 (2006) (defining the term “permanent establishment” in Article 5(1)); ORG. FOR ECON. CO-OPERATION & DEV., MODEL CONVENTION WITH RESPECT TO TAXES ON INCOME AND ON CAPITAL 26 (2010) (same); ORG. FOR ECON. CO-OPERATION & DEV., COMMENTARIES ON THE ARTICLES OF THE MODEL TAX CONVENTION 110–11 (2010) (recognizing that the server on which a web site is stored is a piece of equipment having a physical location and thus may constitute a “fixed place of business”); HARDESTY, *supra* note 80, at 2 (illustrating how to price the use of a web server in the context of e-commerce); *EY Roundtable*, *supra* note 23, at 44–45 (discussing how to attribute value to a web server); Mazur, *supra* note 1, at 33–34, 40–44 (exploring how current law may analyze the use of a server for determining whether it creates a taxable presence).

⁸⁷ See DUFF & PHELPS, *supra* note 28 (noting that cloud computing requires minimal management effort and service provider interaction).

⁸⁸ See *EY Roundtable*, *supra* note 23, at 41 (asserting that tax law has historically focused on a finding a human being who actually renders or provides a service).

⁸⁹ See *id.*

⁹⁰ See HARDESTY, *supra* note 80, at 3 (illustrating in the context of e-commerce how the activities of an independent vendor may serve as a benchmark for an intercompany price).

⁹¹ Evaluating the comparability of the unrelated cloud services requires consideration of all the factors that could affect prices or profits in arm's-length dealings. See Treas. Reg. § 1.482-1(d). Such factors include functions, contractual terms, risks, economic conditions, and property or services. *Id.*

storing data, and providing other relevant functionality that is essential to the success of the business. Other independent cloud vendors may bundle a variety of different services into the basic service agreement provided to unrelated customers, and oftentimes it may be difficult to separately identify the charges for the various functions the servers provide.⁹² In addition, the level and type of risk that each cloud vendor retains may vary significantly between cloud services providers, which also affects the degree of comparability between intercompany cloud services and unrelated cloud services.⁹³ Specifically, some cloud vendors may retain more risk with respect to technological issues whereas others may only take on risk with respect to a certain level of service, such as guaranteeing only a certain quality or speed.⁹⁴ To the extent that risks are not comparable, pricing adjustments need to be made.

Having a server as a value-driver is also problematic because cloud vendors often use mirror servers.⁹⁵ Mirror servers are servers located in different locations that duplicate the software and data stored on core servers and perform identical functions for security and efficiency purposes.⁹⁶ Thus, different servers, potentially located in different countries, may be utilized at different times throughout the day.⁹⁷ This creates significant uncertainties in determining how much profit to allocate to the server activity and to each server.

Another possible value-driver in the cloud computing transaction described above is the proprietary software technology developed by Media Co. Even pre-cloud, this type of intangible property has been a significant source of transfer pricing controversies because of the difficulties in finding a comparable transaction. Separately, the technology developed to provide the particular cloud computing services, which ensures the operation of the

⁹² HARDESTY, *supra* note 80, at 3.

⁹³ See Treas. Reg. § 1.482-1(d)(3)(iii) (detailing the role of risk in determining the degree of comparability between two transactions).

⁹⁴ See HARDESTY, *supra* note 80, at 3 (illustrating how the level and type of risk is determined in the context of a web server used in e-commerce).

⁹⁵ See Llinas et al., *supra* note 78, at 3 (noting that “it is common for server traffic to be ‘load balanced’ and may occur in different jurisdictions at different times of the commercial day”); Mazur, *supra* note 1, at 11 (describing “mirror servers” and how they make it difficult to determine when a country has jurisdiction to tax cloud income). See Kenji E. Kushida et al., *Diffusing the Cloud: Cloud Computing and Implications for Public Policy*, 11 J. INDUSTRY COMPETITION & TRADE 209, 215–23 (2011) (describing how cloud computing works).

⁹⁶ HARDESTY, *supra* note 80, at 1; Mazur, *supra* note 1, at 11.

⁹⁷ See Lilley, *supra* note 49 (noting the use by cloud vendors of redundant and backup systems residing in multiple jurisdictions); Llinas et al., *supra* note 78, at 3 (illustrating how a cloud provider may have IT servers in more than one country).

cloud-based business, is another intangible value-driver.⁹⁸ In addition, there may be other intangibles involved that add value to the operation of the MNE's business, such as the content the cloud vendor hosts on its servers that utilize software technology provided through the cloud, any marketing intangibles, customer relationships, as well as a business trademark or trade name.⁹⁹ As with other intangibles, due to the unique nature of these types of assets, it is often difficult to find unrelated transactions that are sufficiently comparable.

Other economically significant activities in the cloud context often include the activities of personnel managing and maintaining the IT infrastructure, the personnel developing or managing the intellectual property, and the marketing department of the subsidiaries. Even though comparable transactions likely exist for these types of activities, it may nevertheless be difficult to assess the economic contribution of these activities due to the integrated nature of the cloud. Multiple related entities often combine their efforts to provide cloud offerings, and in some circumstances, these functions become so integrated that it may be difficult to separate them out for purposes of finding a comparable transaction as a benchmark to price the transaction.¹⁰⁰

In summary, cloud computing contributes to the overall value of the company through many inputs, such as the company's proprietary software, the performance, reliability, speed, and security of the IT infrastructure, the personnel managing and maintaining the IT infrastructure, the personnel developing or managing the intellectual property, the content provided through the cloud, the marketing department, and other intangibles. These numerous components that make up the cloud offering, together with the integrated nature of the cloud, create challenges in separately identifying and valuing each value-driver and determining which value-driver or drivers should govern the transfer pricing results. Thus, as the cloud becomes a fundamental component in the supply chain of many organizations, these uncertainties will likely give rise to disputes between taxpayers and tax administrations.¹⁰¹

⁹⁸ See *EY Roundtable*, *supra* note 23, at 44 (distinguishing income attributable to server equipment from income attributable to the services, platforms, and content running on that equipment).

⁹⁹ See *id.* at 44, 46.

¹⁰⁰ See ORG. FOR ECONOMIC CO-OPERATION & DEV., OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, ACTIONS 8–10—2015 FINAL REPORTS 47 (2015) [hereinafter OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION] (explaining how MNE group synergies create comparability issues).

¹⁰¹ See Mazur, *supra* note 25, at 6 (noting how tax authorities and taxpayers may disagree as to the value-drivers underlying transfer pricing results); ALVAREZ & MARSAL, *supra* note 76, at 1

C. Locating the Value-Drivers

Moreover, even if these value-drivers can be identified and valued, intercompany cloud computing, like other global value chains, also presents challenges to traditional notions of determining which entity is providing this additional value. Because the tax system seeks to tax profits generated within a defined jurisdiction, identifying where the value-driver is located affects the jurisdiction in which those profits are taxed and ultimately affects the overall tax liability of the MNE.¹⁰² Failure to correctly identify the taxable jurisdiction may result in double taxation of profits to MNEs if their arm's-length price is challenged. This may be especially problematic in the cloud computing context.

Cloud computing often results in substantial cost savings to businesses, because by eliminating the need for each entity to have its own expensive hardware, software, and IT support team to manage the hardware and assist with software installation and maintenance, cloud computing reduces the capital expenditures for the MNE group, reduces energy consumption costs, and reduces the costs of human personnel required to maintain and operate local data centers.¹⁰³ The elastic, on-demand nature of cloud computing also eliminates excess capacity in data storage and computing resources.¹⁰⁴ Because the cloud resources can be located anywhere, MNEs are also able to integrate IT functions in different jurisdictions, which enables them to further reduce certain costs through synergies that take advantage of economies of scale and scope.¹⁰⁵ In addition, the cloud environment often

(“The cloud is not always clear, and this lack of clarity is bound to create confusion and disagreements between taxpayers and taxing authorities . . .”).

¹⁰² See Aleksandra Bal, *Tax Implications of Cloud Computing—How Real Taxes Fit into Virtual Clouds*, 66 BULL. INT'L TAX'N 335, 336 (2012), <http://ssrn.com/abstract=2438466> [perma.cc/HAZ3-PRWJ] (explaining the importance of determining the physical location of an economic activity in the context of tax systems and how the cloud complicates this determination); RANDY FREE & ALEX BAULF, GRANT THORNTON, UNDERSTANDING THE INTERNATIONAL TAX CHALLENGES OF SOFTWARE AS A SERVICE AND CLOUD COMPUTING (2011), <http://www.grantthornton.com/staticfiles/GTCom/Technology/Techdashboard/International%20tax%20challenges%20of%20SaaS.pdf> [perma.cc/YN5D-LVAJ] (noting the difficulties in determining where in the cloud a transaction takes place).

¹⁰³ See Lilley, *supra* note 49 (asserting that by using the cloud “businesses are able to outsource their IT functions in a flexible and scalable way, gain efficiency and reduce operational costs”); Mazur, *supra* note 1, at 9 (describing ways in which a business’s transition to the cloud can decrease its operating costs); Welsh et al., *supra* note 29, at 152 (describing ways through which cloud computing reduces business costs); FREE & BAULF, *supra* note 102 (discussing how cloud computing is changing business).

¹⁰⁴ See MELL & GRANCE, *supra* note 2, at 2 (listing “rapid elasticity” and “on-demand self-service” as essential characteristics of cloud computing); Mazur, *supra* note 1, at 9 (noting the opportunity for increased scalability due to the on-demand nature of cloud computing); Welsh et al., *supra* note 29, at 148, 153 (citing various benefits of the cloud, including increased elasticity).

¹⁰⁵ Ilan Benshalom, *Rethinking the Source of the Arm's-Length Transfer Pricing Problem*, 32 VA. TAX REV. 425, 431 (2013).

enables affiliates to collaborate in a manner that results in business optimization and innovation, which may contribute to group synergies that create additional value for the MNE group. As a result, a significant challenge that arises from a transfer pricing standpoint in the cloud environment is that it is not immediately clear where the cost savings realized from moving to the cloud should accrue.¹⁰⁶

Applying the arm's-length standard to determine the transfer price for an intercompany cloud computing transaction in this environment is challenging. Specifically, compliance challenges arise, because these advantages are often not typical of comparable independent companies, thereby making it difficult to find independent companies that have similar savings and benefits to use as a benchmark for allocating these additional profits.¹⁰⁷ Thus, applying the transfer pricing rules to this type of transaction may not necessarily provide an arm's-length result.

Instead, a facts and circumstances analysis that takes into account the functions, assets, and risks of all the relevant associated enterprises would need to be used to determine each member's contribution to the creation of this additional value. Given the integrated nature of many cloud offerings, accurately making this determination is challenging. Issues arise because multiple related entities often provide the various elements of the cloud computing service.¹⁰⁸ As a result, it is unclear which entity is contributing to the creation of the MNE group's synergies, because it may not be clear which entities are providing the cloud infrastructure, which entities are providing the personnel that support the business, which entities are providing services, and where the intellectual property is owned, developed, and managed.¹⁰⁹ Moreover, given the global fluidity of the cloud, this challenge is further exacerbated because cloud transactions often change locations throughout the day and may simultaneously occur in numerous jurisdictions for reasons such as load-balancing and security precautions.¹¹⁰

It may also be difficult to determine the amount of each entity's contribution to the residual profits of the MNE group, because the multiple value-drivers of the cloud business, which may be developed, managed, and performed in different areas and by different entities, often work together to

¹⁰⁶ *EY Roundtable*, *supra* note 23, at 64; Welsh et al., *supra* note 29, at 147.

¹⁰⁷ See OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 47 (asserting that MNE groups may benefit from synergies not available to similarly situated independent enterprises).

¹⁰⁸ See Wells & Lowell, *supra* note 8, at 750–52 (stressing the difficulties inherent in applying a one-sided transfer pricing methodology to residual profits).

¹⁰⁹ *EY Roundtable*, *supra* note 23, at 43.

¹¹⁰ See FREE & BAULF, *supra* note 102, at 2 (“For many reasons, such as security concerns and speed of accessibility, the location of the transaction may move through the cloud as the databases replicate to follow time zones.”).

create the cost savings, residual profits, and group synergies. As one commentary appropriately observed, these “residual profits [that] exist[] within the MNE group [can]not be explained by the routine functions performed by any single affiliate.”¹¹¹ Thus, the cloud environment exacerbates the difficulties in determining each related member’s contribution and associated transfer pricing charge.¹¹²

II. TAX CHALLENGES TO GOVERNMENTS

Despite the tax compliance risks that exist for MNEs operating in the cloud, companies can transform many of these uncertainties into tax opportunities. With advance planning, MNEs can significantly reduce their overall worldwide tax liability by arranging their corporate structures to take advantage of the transfer pricing rules. In particular, by moving profits to where they are subject to lower tax rates and moving expenses to where they are deducted at higher rates, an MNE may achieve double non-taxation or less than single taxation.¹¹³ Although legal, this type of aggressive transfer pricing substantially contributes to BEPS.¹¹⁴

BEPS is not a new problem.¹¹⁵ It already exists to a great extent outside of the cloud environment. But the recent emergence, rapid growth, and prevalent use of cloud computing have the potential to significantly contribute to this widespread problem by increasing the likelihood that this type of base erosion will accelerate. Accordingly, this Part briefly describes how the transfer pricing rules currently contribute to BEPs.¹¹⁶ It then argues that some of the key characteristics of cloud computing may exacerbate risks of BEPS.¹¹⁷

A. Transfer Pricing Rules as a Substantial Contributor to BEPS

The correct application of the transfer pricing rules is critical, because it significantly affects the relevant share of an MNE’s profits that will be

¹¹¹ Wells & Lowell, *supra* note 8, at 754–55.

¹¹² KPMG INT’L, *supra* note 3, at 11.

¹¹³ See OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 39 (“[B]roadly speaking BEPS focuses on moving profits to where they are taxed at lower rates and expenses to where they are relieved at higher rates.”).

¹¹⁴ See OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 10 (explaining how current rules have revealed weaknesses that create opportunities for BEPS); Brauner, *supra* note 12, at 96 (describing the moving of intangibles away from high-tax jurisdictions to low-tax jurisdictions as the “beating heart of BEPS planning”).

¹¹⁵ See Ault et al., *supra* note 17, at 275 n.4 (citing numerous reports on prior efforts to address BEPS issues that go as far back as 1979).

¹¹⁶ See *infra* notes 118–146 and accompanying text.

¹¹⁷ See *infra* notes 151–185 and accompanying text.

subject to taxation in a particular jurisdiction.¹¹⁸ As discussed above, the transfer pricing rules apply the arm's-length standard to determine the transfer price between intercompany transactions, which requires that the results of these transactions be consistent with the results realized by independent, unrelated parties engaging in comparable transactions.¹¹⁹ As many leading commentators have noted, however, the transfer pricing rules and the arm's-length standard have been unsuccessful in equitably allocating profits among jurisdictions and preventing artificial profit-shifting.¹²⁰ In fact, aggressive manipulation of the transfer pricing rules has only continued to increase in recent years.¹²¹ The evolution of business models, the increased importance of intangibles, and the ability to contractually allocate risk have substantially contributed to this increase.

1. Evolution of Business Models

One fundamental problem with the current rules is that business practices have changed since the transfer pricing rules were first enacted, which makes it difficult to place transactions between related parties on tax parity with unrelated parties. When the arm's-length standard was initially designed, each jurisdiction in which an MNE group operated generally had its own fully integrated subsidiary to manage the group's business in that mar-

¹¹⁸ See I.R.C. § 482 (2012) (noting the power of the Secretary of the Treasury to allocate income within an entity to better reflect the income of the entity).

¹¹⁹ Treas. Reg. 1.482-1(a)-(b) (as amended in 2012). The arm's-length standard is the internationally accepted standard underlying transfer pricing determinations. OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 36; OECD TRANSFER PRICING GUIDELINES, *supra* note 6, at 31; DOERNBERG, *supra* note 8, at 282; Wells & Lowell, *supra* note 8, at 745 n.31.

¹²⁰ See, e.g., BORIS I. BITTKER & LAWRENCE LOKKEN, *Transfer Pricing—Introductory, in FEDERAL TAXATION INCOME, ESTATES AND GIFTS 1, 2* (2016) (noting that the arm's-length standard fails to take into account the fact that relationships between related parties are different from that of unrelated parties); DOERNBERG, *supra* note 8, at 282–83 (questioning the accuracy of arm's-length prices and whether they even exist for most goods traded by MNEs); Reuven S. Avi-Yonah et al., *Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split*, 9 FLA. TAX REV. 497, 510–23 (2009) (proposing the replacement of the arm's-length standard with a system of formulary apportionment); Benschalom, *supra* note 105, at 430 (characterizing the arm's-length model as “the most acute problem in international taxation and income taxation of corporate income today”); Edward D. Kleinbard, *The Lessons of Stateless Income*, 65 TAX L. REV. 99, 148–49 (2011) (“[E]vidence has mounted that the [arm's-length] model has failed as a practical matter”); Wells & Lowell, *supra* note 8, at 746 (noting that the mere existence of BEPS may present sufficient evidence to show that the arm's-length model cannot defend against inappropriate income-shifting).

¹²¹ Jesse Drucker, *U.S. Companies Dodge \$60 Billion in Taxes Even Tea Party Condemns*, BLOOMBERG NEWS (May 13, 2010, 3:00 PM), <http://www.bloomberg.com/news/2010-05-13/American-companies-dodge-60-billion-in-taxes-even-tea-party-would-condemn.html> [perma.cc/6H3L-XTDB].

ket.¹²² Because members of the MNE group were operating more like separate economic actors, it was more feasible to find comparable transactions between unrelated parties.

Nowadays, the separate legal entities forming the MNE group are no longer operating as separate economic actors, but instead are more likely to operate as a single integrated economic unit.¹²³ This shift has minimized the importance of corporate legal structures and individual legal entities and has made the relationship between related parties fundamentally distinct from that of independent parties.¹²⁴ Moreover, global value chains “challenge orthodox notions of where economies find themselves on the value-added curve.”¹²⁵ Thus, as others have also noted, “there is little reason to expect that observations of actual arm’s length prices even exist for most goods and services traded by [MNEs].”¹²⁶

In addition, as MNEs become more integrated and global value chains continue to become a common feature of today’s global economy, it has become easier for MNEs to shift functions, assets, and risks to jurisdictions with favorable tax regimes. MNEs are incentivized to shift profits in this manner under the current transfer pricing rules, because one of the underlying assumptions of the arm’s-length standard is that the more extensive the functions, assets, and risks of one party to the transaction, the greater its expected share of the MNE’s profits.¹²⁷ Thus, the lack of true comparables and the inherent ambiguity involved in identifying and valuing the inter-company transactions of a single global firm facilitates an MNE’s ability to legally structure its operations to minimize its global effective tax rate.¹²⁸ Moreover, as a practical matter, it may be difficult for tax administrations to

¹²² OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92. As the OECD has noted, “This structure was dictated by a number of factors, including slow communications, currency exchange rules, customs duties, and relatively high transportation costs that made integrated global supply chains difficult to operate.” *Id.*

¹²³ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 25 (noting the shift in MNEs from country-specific operating models to global models); BITTKER & LOKKEN, *supra* note 120, at 2 (observing that modern MNEs operate as an economic unit).

¹²⁴ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92; BITTKER & LOKKEN, *supra* note 120, at 2; J. Clifton Fleming, Jr. et al., *Formulary Apportionment in the U.S. International Income Tax System: Putting Lipstick on a Pig?*, 36 MICH. J. INT’L L. 1, 2 (2014); Lee Sheppard, *Transfer Pricing as Tax Avoidance*, FORBES (June 25, 2010, 12:00 PM), <http://www.forbes.com/2010/06/24/tax-finance-multinational-economics-opinions-columnists-lee-sheppard.html> [perma.cc/NL42-TSBM].

¹²⁵ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 27.

¹²⁶ DOERNBERG, *supra* note 8, at 282–83; *see* Sheppard, *supra* note 124 (“It is a fool’s errand to try to divine arm’s-length prices for intragroup transactions . . .”).

¹²⁷ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 42.

¹²⁸ Benshalom, *supra* note 105, at 431.

enforce the transfer pricing rules under these circumstances, which further contributes to the BEPS problem.¹²⁹

2. Increased Importance of Intangibles

Additionally, our current economy's increasing reliance on intangibles as a source of value also contributes to tax-motivated restructurings. It is much easier for companies to shift risks and ownership of intangible assets than to shift the underlying functions.¹³⁰ Intangible assets are by their very nature stateless, which makes them especially mobile.¹³¹ Specifically, the profits generated by an intangible asset are not dependent on where the intangible asset was developed or the location of the legal owner.¹³² There is also a lack of comparables for most valuable intangible assets, since intellectual property is by definition unique.¹³³ Moreover, in allocating the income attributable to an intangible asset among group members, the transfer pricing rules focus on the entity that is the legal owner of the intangible property.¹³⁴ Given these features, many corporate structures are able to "move" hard-to-value intangibles from their country of origin to low-tax jurisdictions

¹²⁹ See *id.* (asserting that the inability to determine the true cost of what unrelated parties would have done creates enforcement challenges).

¹³⁰ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING *supra* note 8, at 42; see also Wells & Lowell, *supra* note 8, at 780–81 (citing OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 41–42) (contrasting the ease with which an MNE may shift intangible assets with the difficulty an MNE may face in shifting its underlying functions).

¹³¹ See Sheppard, *supra* note 124 (asserting that it is difficult to allocate income derived from IP due to its stateless nature).

¹³² See *id.*

¹³³ BITTKER & LOKKEN, *supra* note 120, at 4; Sheppard, *supra* note 124. For a thorough discussion of the unique features of intangibles that contribute to the challenges in valuing intangibles, see generally Yariv Brauner, *Value in the Eye of the Beholder: The Valuation of Intangibles for Transfer Pricing Purposes*, 28 VA. TAX REV. 79 (2008) (discussing the theory and practice of valuation of intangibles in the context of transfer pricing rules). The U.S. transfer pricing rules include a "commensurate with income" standard that attempts to prevent MNEs from manipulating the transfer price of intangible assets. See Treas. Reg. § 1.482-4(f)(2) (as amended in 2011). This standard provides that the price for the transfer of an intangible asset may be adjusted in later years to ensure that the transfer price is commensurate with the income actually attributable to the intangible. *Id.* This standard permits hindsight and is a departure from the arm's-length standard. *Id.*; Brauner, *supra*, at 100–01. However, the commensurate with income standard has been unsuccessful in minimizing price manipulation due to the standard's many exceptions and the government's interpretation of this standard to be consistent with the arm's-length standard. See Treas. Reg. § 1.482-4(f)(2); Brauner, *supra*, at 101 (noting that the government "aggressively interprets[s] the commensurate with income standard as if it is subject to the arm's length principle"). Thus, despite this standard, MNEs are able to artificially shift intangibles and their associated profits to low-tax jurisdictions.

¹³⁴ Brauner, *supra* note 133, at 125–26.

in a manner that avoids taxation of the income generated by these intangible rights in the high-tax country of origin, such as the United States.¹³⁵

For instance, MNEs may use cost-sharing or other legally permissible arrangements to shift certain intangibles to affiliates operating in a favorable tax environment solely for tax purposes.¹³⁶ Frequently, legal ownership of these assets is transferred to an affiliate in a low-tax jurisdiction through contractual arrangements in a manner that is not equivalent to functions performed, assets used, or risks assumed related to the intangibles.¹³⁷ As a result, the income generated by these intangible assets is also treated as arising in that low-tax jurisdiction, rather than the jurisdiction in which the economic return actually arises.¹³⁸ Tax administrations face tremendous hurdles in challenging these allocations because of the inherent difficulties in valuing intangible assets under the arm's-length standard at the time of the transfer, the tax administration's lack of information regarding the true nature of the transaction, and the possible transfer of unidentified intangibles as part of the transaction.¹³⁹ This creates tax planning opportunities for MNEs that present substantial risks of BEPS.¹⁴⁰

3. Ability to Contractually Allocate Risk

Furthermore, MNEs contribute to BEPS through their use of contractual arrangements to allocate risk to affiliates in low-tax jurisdictions in a manner that may not necessarily reflect the underlying economic reality of the single global firm.¹⁴¹ The allocation of risks has significant tax ramifica-

¹³⁵ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 42 (noting the ease with which MNEs may shift intangible assets to low-tax jurisdictions); Brauner, *supra* note 12, at 96; *see also* Brauner, *supra* note 133, at 83 (asserting that “our tax regime creates an incentive to invest abroad and particularly to invest extensively in intangibles to capture as much of the benefits embedded in the transfer pricing rules”).

¹³⁶ For example, a transfer of intangibles can be achieved through licensing arrangements, cost contribution arrangements, or tax structures that separate deductions relevant to development of an intangible from the income associated with it. OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 91.

¹³⁷ *See id.* (noting the frequency with which MNEs use contractual agreements to shift business risk into low-tax jurisdictions).

¹³⁸ *See id.*

¹³⁹ *See id.*; Wells & Lowell, *supra* note 8, at 757 (illustrating the difficulties tax authorities face in challenging a MNEs allocation of profits).

¹⁴⁰ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 89, 91; Brauner, *supra* note 12, at 97 (noting that this type of tax planning has enabled U.S. MNEs to escape paying U.S. taxes on trillions of dollars of their foreign profits).

¹⁴¹ Wells & Lowell, *supra* note 8, at 751–52; *see* Treas. Reg. § 1.482-1(d)(3)(iii) (providing guidance on how to analyze the risk in a transaction as a means to determine the comparability of two or more transactions); OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 42, 45 (questioning how risk is actually distributed within an MNE group and whether transfer pricing rules should easily accept contractual allocations of risk).

tions as it affects how the MNE's income resulting from a particular transaction is allocated at arm's-length through the transfer pricing of the transaction.¹⁴² Through these intercompany agreements, MNEs are able to legally shift risks so that operations in high-tax jurisdictions are attributed a smaller amount of the MNE's overall profits even though important functions related to these risks continue to be performed in the high-tax jurisdiction.¹⁴³ This is often achieved by separating business functions between affiliates so that the entities in high-tax jurisdictions that are contractually insulated from risk provide only low-profit, routine functions.¹⁴⁴ As a result, MNEs can often successfully assert that the entire residual profit be allocated to the affiliate in the low-tax jurisdiction as the contractual risk-taker.¹⁴⁵ Because the transfer pricing rules under the arm's-length standard generally respect risk allocations adopted by related parties, it is difficult for tax administrations to re-characterize the transactions and challenge the income allocation consequences asserted to follow from them under the current rules.¹⁴⁶

B. How Cloud Computing Exacerbates the BEPS Problem

Although MNEs have already been able to shift profits abroad, the mainstream use of cloud computing has the potential to dramatically enhance the scale at which such activity is possible. This section argues that the cloud environment facilitates BEPS strategies, which presents tremendous challenges to governments worldwide as they try to protect their tax bases.¹⁴⁷ In particular, the cloud environment contributes to BEPS because the nature of cloud computing (1) enables an MNE group to more easily locate the cloud service provider in a low-tax jurisdiction,¹⁴⁸ (2) provides opportunities for an MNE group to strip their earnings from a high-tax jurisdiction through inflated payments to an affiliated cloud service provider located in a low-tax jurisdiction;¹⁴⁹ and (3) creates cost savings that increase

¹⁴² Wells & Lowell, *supra* note 8, at 751–52; *see also* Treas. Reg. § 1.482-1(d)(3)(iii); OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 42, 45.

¹⁴³ *See* OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92 (noting that revised guidance focuses on allocating the “appropriate return” to those entities that maintain significant risks).

¹⁴⁴ Wells & Lowell, *supra* note 8, at 751–52; *see* OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92 (identifying the practice of MNEs to contractually insulate entities from risk in order to take advantage of transfer pricing rules).

¹⁴⁵ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92; Wells & Lowell, *supra* note 8, at 751–52.

¹⁴⁶ Treas. Reg. § 1.482-1(d)(3)(iii); OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 42.

¹⁴⁷ *See infra* notes 151–185 and accompanying text.

¹⁴⁸ *See infra* notes 151–166 and accompanying text.

¹⁴⁹ *See infra* notes 167–171 and accompanying text.

the MNE group's residual profits in a manner that facilitates allocating those profits to a low-tax jurisdiction.¹⁵⁰

1. Ease of Relocating to Low-Tax Jurisdictions

Cloud computing, which occurs almost entirely in the virtual world, is an essentially borderless and globally integrated business model.¹⁵¹ It has eliminated the need for local IT infrastructure and increased the mobility of IT resources by allowing companies to share a pool of configurable computing resources remotely through the cloud.¹⁵² This has created opportunities for MNEs to move their cloud service provider to a low-tax jurisdiction without affecting the quality of business operations.¹⁵³ Thus, intercompany payments for those cloud computing services can be used to strip the earnings of the MNE group from high-tax jurisdictions to low-tax jurisdictions even when there is no transfer pricing abuse involved.¹⁵⁴

For instance, although functions are often located in a specific country for business reasons, the increasingly mobile nature of the business functions related to the cloud facilitates an MNE's ability to shift these functions to jurisdictions that generate tax benefits.¹⁵⁵ Specifically, under the typical cloud business model, an MNE's software and its corresponding business functionality reside on servers owned and managed by the cloud service provider, which is accessed remotely by users.¹⁵⁶ The MNE's servers, data centers, and other IT infrastructure can be located almost anywhere with little to no effect on economic activity.¹⁵⁷ They do not need to be located in the same place as the software users.¹⁵⁸ Moreover, often times servers and other cloud infrastructure may be located in multiple jurisdictions, thereby

¹⁵⁰ See *infra* notes 172–185 and accompanying text.

¹⁵¹ See MELL & GRANCE, *supra* note 2, at 2 (listing the essential characteristics of cloud computing); Mazur, *supra* note 1, at 9 (differentiating traditional software transactions from cloud computing because the latter occurs almost entirely in the virtual world).

¹⁵² EY Roundtable, *supra* note 23, at 40; DUFF & PHELPS, *supra* note 28.

¹⁵³ See OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 64–68 (identifying mobility with respect to intangibles, users, and business functions as a key feature of the digital economy); Llinas et al., *supra* note 78 (noting the ease through which entities can relocate their cloud activities).

¹⁵⁴ Mazur, *supra* note 25, at 6.

¹⁵⁵ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 65–68.

¹⁵⁶ Mazur, *supra* note 1, at 10. Thus, users can obtain core and critical business functionality without ever receiving either physical or electronic possession of the company's core business software. See *id.* (“In a cloud computing transaction, a cloud vendor solely provides the purchaser with electronic access to a computer program, applications, and corresponding data.”).

¹⁵⁷ Kushida et al., *supra* note 95, at 211–12; Mazur, *supra* note 1, at 10.

¹⁵⁸ Kushida et al., *supra* note 95, at 211–12; Mazur, *supra* note 1, at 10.

distributing the business functionalities accessed by affiliates into numerous low-tax jurisdictions.¹⁵⁹

Because tax guidance has generally emphasized the operation of the software on the servers in allocating profits among activities, the cloud environment provides MNEs with the opportunity to allocate significant profits to affiliates in low-tax jurisdictions and avoid taxation in market jurisdictions merely by moving the servers to those jurisdictions. By doing so, MNEs that operate in the cloud and use software as a key component of their businesses are able to locate core and critical business functionality in low-tax affiliates with little impact on their business operations. This is especially true as MNEs adopt more smart servers, which require minimal management effort and service provider interaction.¹⁶⁰ As another commentator accurately noted, “In these circumstances, profits could be diverted from countries that have any meaningful connection to the profit-making activities, i.e. to a country where the business is based and the intangibles were developed.”¹⁶¹ This is a huge shift from way it has been done for the last fifty years and raises substantial BEPS concerns.¹⁶²

Furthermore, given the virtual nature of cloud computing, employees can perform many cloud computing functions remotely.¹⁶³ Because cloud computing transforms the licensing of software and other applications and the managing of captive IT infrastructure assets into the purchase of cloud computing services, this feature is magnified in the cloud context.¹⁶⁴ As a result, the cloud environment further facilitates an MNE’s ability to fragment and move core IT functions to geographic locations that are distant from the physical location of its users and that are advantageous from a tax perspective. For instance, an MNE can locate the personnel that manage, maintain, and support the IT infrastructure and provide software technical support services in a low-tax jurisdiction, which may differ from the market

¹⁵⁹ See *EY Roundtable*, *supra* note 23, at 41 (noting that “the business functionalities that these employees are accessing are now spread out into other cities or other countries”).

¹⁶⁰ DUFF & PHELPS, *supra* note 28.

¹⁶¹ Bal, *supra* note 102, at 337. The OECD has also observed that MNEs have been increasingly able to allocate key functions in ways that may not correspond to actual business functions performed and that would not be chosen in the absence of tax considerations. See OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 65.

¹⁶² See *EY Roundtable*, *supra* note 23, at 40 (distinguishing current practices from past practices, the latter involving “a big install, a big conversion, a lot of data movement and everything was on premise within the four walls”).

¹⁶³ Mazur, *supra* note 1, at 30.

¹⁶⁴ See Welsh et al., *supra* note 29, at 148 (stating that “cloud computing moves a company from managing captive IT infrastructure assets to purchasing a service provided by vendors”); see also *supra* notes 130–140 and accompanying text (discussing the increased importance of intangible assets and the ease with which corporate structures are able to move these assets to low-tax jurisdictions).

jurisdiction. As a result, profits of the MNE may be reported in this low-tax jurisdiction, even though the actual business activities related to these profits arguably occur elsewhere. Thus, by transforming the provision of IT resources into more of a service industry, cloud computing often creates opportunities for MNEs to “segregate the location where actual business activities and investment take place from the location where profits are reported for tax purposes.”¹⁶⁵

Alternatively, even if the IT personnel are physically located in the market jurisdiction, current law may nevertheless treat the services income as being generated in a different jurisdiction. It is currently unclear whether cloud services will be treated as being performed at the location of the personnel or the location of the cloud infrastructure that the personnel remotely manage and that deploys the MNE’s business software.¹⁶⁶ Consequently, it may be possible that the physical location of the hardware that deploys the software, such as servers and other computer infrastructure, constitutes the place where the employees are performing the cloud computing services. Because the IT infrastructure can be located at a physical location that is distant from its users, an MNE group may structure its operations so that the IT infrastructure that hosts the software, data, and other business functions are located in a low-tax jurisdiction. Under these circumstances, the MNE group may be able to successfully argue that the business activities performed by its IT personnel are being performed in the low-tax jurisdiction and allocate more profits to that jurisdiction. In other words, an MNE group may be able to shift its services income without having to move its people.

2. Use of Inflated Payments

Although shifting functions and assets to low-tax jurisdictions as a means of lowering the overall tax burden of the MNE group is arguably not objectionable in itself, cloud computing also facilitates the opportunity of MNEs to inflate the payments made for cloud computing services by affiliates in high-tax jurisdictions to the affiliated cloud service provider that is located in a low-tax jurisdiction. As a result, through the transfer pricing

¹⁶⁵ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 20.

¹⁶⁶ Mazur, *supra* note 1, at 30. The place of performance is unlikely to be treated as occurring at the location of the users under current law. See *Piedras Negras Broad. Co. v. Comm’r*, 43 B.T.A. 297, 309 (1941) (considering the location of the capital and labor—not the location of the company’s customers—as the location where the income-producing services of a radio broadcasting business were rendered), *aff’d*, 127 F.2d 260 (5th Cir. 1942); Mazur, *supra* note 1, at 30–31 (explaining that generally “the [Internal Revenue] Code sources services income to the place where services are performed,” but that this application of the law may not be appropriate in the cloud computing context).

rules, MNEs are able to shift the profits of the MNE group to low-tax jurisdictions and erode the tax base of many high-tax jurisdictions.

The cloud environment contributes to these types of BEPS strategies by further enabling companies to globally integrate their operations. As discussed above, as companies become more globally integrated, major challenges arise in accurately applying the arm's-length standard, because the separate legal entities forming the MNE group are no longer operating as separate economic actors.¹⁶⁷ Multiple related entities often provide the different elements of the cloud computing services and contribute to the group synergies and residual profits of the MNE group in a manner that is not typical of comparable independent companies. Under these circumstances, it is often difficult to find comparable transactions to use as a benchmark for determining the appropriate charge for the cloud computing services. As a result, MNEs have the opportunity to make inflated payments to the low-taxed cloud service provider, which the tax authorities may find difficult to challenge.

Moreover, as cloud computing becomes an essential part of an MNE's global supply chain, additional challenges arise in determining the arm's-length charge for the cloud services, because cloud computing changes the economic activity of a business and how value is created. This gives rise to issues in isolating, identifying, and valuing the numerous value-drivers involved in the cloud business model.¹⁶⁸ It is, however, relatively easy to move many of these value-drivers to low-tax jurisdictions. As a result, these ambiguities regarding the value-drivers of the cloud computing services, together with the lack of comparables, make it easier for an MNE to argue that a particular activity, which it has located in a low-tax jurisdiction, is the primary value-driver and to have legal structures and contracts in place that support the payment made to the low-tax jurisdiction. Thus, an MNE group may be able to over-allocate its profits to the low-tax jurisdictions.

By artificially shifting income between affiliates in a manner that maximizes the MNE group's overall effective tax rate to the detriment of the countries where such profits economically arose, MNEs potentially may contribute to base erosion of the high-tax jurisdictions. Tax administrations will likely find it difficult to challenge this outcome, because the arm's-length standard is ineffective in making the transfer pricing outcome in line

¹⁶⁷ See *supra* notes 122–129 and accompanying text (detailing the evolution of the MNE business model from one where members of the MNE group were separate economic actors to one where the MNE functions as a single integrated economic unit).

¹⁶⁸ See *supra* notes 79–101 and accompanying text (stressing the importance and difficulty of identifying the value-drivers of cloud transactions in the context of MNEs).

with value creation in this context.¹⁶⁹ Thus, the same problems that already exist today get repeated, but on a much larger scale as more and more companies engage in cross-border cloud computing.¹⁷⁰

In addition, as with other digital businesses, cloud computing services often rely on intangibles, such as software, as a source of value.¹⁷¹ By incorporating cloud computing into their supply chain, MNEs can continue to take advantage of existing transfer pricing strategies to shift ownership of intangibles abroad, such as cost-sharing arrangements, contribution or other methods. Transferring legal ownership of the software to a low-tax affiliate in this manner allows an MNE to shift additional income to a low tax jurisdiction and lower its overall tax base. Even though a high-tax affiliate may have economically contributed to the creation of this income by developing or funding the development of the intangible, the low-tax affiliate is treated as generating the majority of the income, thereby eroding the tax base of the high-tax jurisdiction.

3. Creation of Residual Profits

The cloud environment also provides the ideal circumstances for BEPS through the creation of substantial cost savings and group synergies that contribute to residual profits, which would not otherwise exist.¹⁷² Through the use of the transfer pricing rules, MNEs can allocate these cost savings and synergies to a low-tax jurisdiction in a manner that potentially minimizes their overall worldwide tax liability. This type of profit shifting often

¹⁶⁹ See Benshalom, *supra* note 105, at 431 (asserting that the inability to determine the true cost of what unrelated parties would have done makes enforcing the arm's-length standard extremely difficult as a practical matter).

¹⁷⁰ See Drucker, *supra* note 121 (noting that U.S. companies amassed at least \$1 trillion in foreign profits not taxed in the United States as of the end of 2009, in part due to a significant increase in inappropriate transfer pricing practices).

¹⁷¹ See Jones, *supra* note 29, at 4–5, 19 (“The new digital economy in turn emphasizes intangible property and its subsequent development, protection, and exploitation.”). For instance, when a member of an MNE group acts as a cloud service provider to other members and provides them access to the company’s proprietary software that is hosted on its IT infrastructure, and the members use that software to generate business from unrelated customers, the cloud service provider is contributing to the value of the MNE group. This is an example of the software as a service (“SaaS”) cloud computing business model. See MELL & GRANCE, *supra* note 2, at 2 (defining SaaS); Mazur, *supra* note 1, at 8 & n.19 (discussing SaaS in the context of classifying a transaction as a transfer of a copyright-protected article). Other common cloud computing models that currently exist include infrastructure as a service (“IaaS”) and platform as a service (“PaaS”). MELL & GRANCE, *supra* note 2, at 2–3.

¹⁷² See Cockfield, *supra* note 17, at 937 (“[T]he digital environment is changing the ways that firms combine and operate to reduce transaction costs and generate synergies among cross-border operations.”); KPMG INT’L, *supra* note 3, at 5 (noting that a business’s transition to the cloud often results in a more effective and cheaper IT arrangement); *supra* notes 102–112 and accompanying text (discussing the creation of cost savings and group synergies in the cloud environment).

occurs at the expense of the jurisdictions where the residual profits economically arose.

Generally, an MNE moving its business to the cloud may be able to justify allocating these residual profits to a low-tax jurisdiction under the arm's-length standard through the use of a transactional transfer pricing method. Traditional transactional transfer pricing methods, which include the comparable uncontrolled services price, gross services margin method, and comparable profits methods, are "one-sided" methods.¹⁷³ As one commentator explains, these methods "apply the arm's length standard by making one party the 'tested party' that is entitled to only a 'routine profit.'"¹⁷⁴ In other words, the entities that are treated as the "tested parties" are excluded from participating in any residual profits.¹⁷⁵ The U.S. transfer pricing rules generally treat the "tested party" as the affiliate that is the least complex and is most easily compared to comparable transactions between unrelated parties.¹⁷⁶ Pursuant to these rules, MNEs can essentially choose the affiliate that will serve as the tested party by structuring their arrangements so that the affiliate in the high-tax jurisdiction bears little risk with respect to core business functions, owns few assets that are used in the business, and provides only straightforward, routine functions, such as technical support.¹⁷⁷ As a result of these arrangements, an MNE can justify allocating to this high-tax affiliate only a routine profit margin based on comparable transactions that occur between independent entities.¹⁷⁸

By ensuring that the low-taxed foreign affiliate is the more complex party, the residual and more substantial income would then be entirely allocated to this untested party by default without the need to identify a comparable unrelated transaction or any further explanation.¹⁷⁹ Even though other

¹⁷³ Wells & Lowell, *supra* note 8, at 749.

¹⁷⁴ *Id.* at 749 n.41.

¹⁷⁵ *See id.* at 755–56 (detailing case law supporting the practice of leaving residual profits with the untested party).

¹⁷⁶ Treas. Reg. § 1.482-5(b)(2)(i), (e) (as amended in 2011); Wells & Lowell, *supra* note 8, at 751.

¹⁷⁷ *See* U.S. Steel Corp. v. Comm'r, 617 F.2d 942, 954 (2d Cir. 1980) (holding that the transactions between a subsidiary shipping company located in a tax-exempt jurisdiction and its parent MNE satisfied the arm's-length standard, despite the fact that the MNE had manipulated prices in order to maximize the profits of the tax-exempt subsidiary); Wells & Lowell, *supra* note 8, at 751 (recognizing the incentive for MNEs to label its U.S. affiliate as the "tested party" in order to reduce its tax liability).

¹⁷⁸ Wells & Lowell, *supra* note 8, at 751.

¹⁷⁹ *See* U.S. Steel Corp., 617 F.2d at 945 (allowing a subsidiary located in a tax-exempt jurisdiction to keep all residual profits without explanation, effectively turning the subsidiary into an offshore tax shelter); Wells & Lowell, *supra* note 8, at 75 (noting that once an agreement is reached between related entities as to which party should be the "tested party," the "profit allocations are no longer controversial because the routine profits attributable to routine functions are

affiliates may have developed the software that the MNE uses in its core business to produce a substantial profit, provided employees, contributed capital to fund the deployment and maintenance of the cloud, or performed other substantial economic activities, these contributions are disregarded. Through use of these one-sided methods, any additional profit generated by cloud synergies will go to the entity in a low- or no-tax jurisdiction and potentially escape taxation altogether. Furthermore, the payments that the high-tax affiliates make to the low-tax affiliate for the cloud computing services will be higher, which can give rise to base eroding tax deductions in the high-tax jurisdiction.¹⁸⁰ Thus, through proactive tax planning, MNEs can minimize their global effective tax rates merely by framing affiliates that are located in high-tax jurisdictions as the “tested” parties and those in low-tax jurisdictions as the “untested” party, and it will often be difficult for tax authorities to challenge this result.¹⁸¹

In addition, as discussed above, the cloud environment facilitates the shifting of functions and assets to low-tax affiliates, which would help make the low-tax affiliate the more complex, tested party for transfer pricing purposes. The use of cloud computing also preserves the circumstances that currently make risk-shifting possible, which an MNE can use to further support its claim that the low-tax affiliates should be treated as the tested party.¹⁸² In particular, the cloud business model, by its nature, shifts risks and control with respect to the software and underlying IT infrastructure from the user to the cloud vendor, which the MNE group can more easily locate in a low-tax jurisdiction.¹⁸³ An MNE group can also shift the risk of the cloud deployment to a low-tax affiliate through intercompany agreements and by capitalizing the low-tax affiliate with sufficient capital to fund the economic costs and assume responsibility for the risks of the business.

common knowledge among those experienced in transfer pricing matters—both for the taxpayer and the taxing authority”).

¹⁸⁰ See OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92 (discussing how MNEs may insulate high-tax affiliates from risk by shifting risk to low-tax affiliates).

¹⁸¹ Wells & Lowell, *supra* note 8, at 750–52. It is currently difficult for tax administrations to challenge the allocation of the entire residual profit to the untested party that is located in the low-tax jurisdiction, because of the procedural posture of the parties. *Id.* at 757. For instance, the tax administration would have to discover whether the local affiliate owned a non-routine intangible that contributed significantly to earning those residual profits. *Id.*

¹⁸² As discussed above, even before the emergence of cloud computing, companies had been able to shift many risks through contractual arrangements between related entities. This opportunity continues to exist in the cloud context. See *supra* notes 141–146 and accompanying text (discussing how MNEs contribute to BEPS through their use of contractual arrangements to allocate risk to affiliates in low-tax jurisdictions in a manner that may not necessarily reflect the underlying economic reality of the single global firm).

¹⁸³ See Mazur, *supra* note 1, at 10 (distinguishing the traditional software distribution model where the purchaser carried the risk from the cloud model where the vendor carries the risk).

Similarly, the MNE group can shift the technological risks relating to the success of the business to this group member by transferring legal ownership of the company's intangibles and infrastructure to the low-tax affiliate. Moreover, because an internal company cloud enables MNEs to fragment their operations among multiple group entities, MNEs are able to structure their operations so that high-tax affiliates provide only low-profit, routine functions, thereby further insulating them from risk. Through these risk-shifting strategies, MNEs can often justify allocating the entire residual profit to the low-tax affiliates.

In conclusion, the virtual and globally integrated nature of the cloud contributes to an MNE's ability to structure its operations in a manner that allows it to move its income-generating transactions and to select the jurisdictions in which such income is taxed, or more likely, not taxed.¹⁸⁴ As a result, it is no surprise that cloud computing has become a "recent and obvious manifestation of BEPS."¹⁸⁵

III. ADDRESSING BEPS IN THE CLOUD COMPUTING CONTEXT

The use of aggressive transfer pricing to artificially shift profits to low- or no-tax jurisdictions is a pressing and current problem that is being experienced worldwide.¹⁸⁶ It leads to governments losing substantial tax revenue as profits are shifted in ways that erode the taxable base to jurisdictions where profits are subject to a more favorable tax treatment.¹⁸⁷ This creates tax policy concerns, because this often results in stateless income – income that disappears for tax purposes.¹⁸⁸ Additionally, artificially shifting profits

¹⁸⁴ OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 10.

¹⁸⁵ Jones, *supra* note 29, at 20.

¹⁸⁶ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 5–6.

¹⁸⁷ *Id.* at 13. This is a critical issue in both territorial and worldwide tax systems. As a result of this type of aggressive tax planning by MNEs, transfer pricing outcomes are not in line with value creation and the taxing rights of jurisdictions fail to capture economic activity occurring within their borders. This directly affects the source tax base of the jurisdiction. Because the source tax base is the only tax base in a territorial system, aggressive transfer pricing methods result in a significant loss of revenues. Similarly, this type of tax planning also erodes the tax base of the United States. In the present U.S. tax system, these issues affect the classification of income as foreign or domestic for purposes of determining which items benefit from deferral. Therefore, as MNEs continue to artificially and successfully allocate more income to foreign jurisdictions, more income escapes U.S. taxation. Moreover, aggressive transfer pricing also affects the classification of income as foreign or domestic for purposes of the foreign tax credit limitation. See I.R.C. § 901 (2012) (providing a direct foreign tax credit for income taxes paid to non-U.S. governments). A system that allows MNEs to artificially shift income abroad to low-tax jurisdictions may result in a foreign tax credit that does more than eliminate double taxation. To avoid this result, such income should not be treated as foreign for purposes of the foreign tax credit limitation if the income does not bear a significant foreign tax.

¹⁸⁸ OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 10; OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 39, 47; see Edward

abroad in this manner poses a serious risk to tax sovereignty, tax fairness, and the integrity of the corporate income tax.¹⁸⁹ To prevent a worsening of these problems, it is imperative that countries work together to implement an international solution to BEPS. This Part discusses the BEPS Action Plan, its recommendations for reform and its shortcomings. It then argues that adoption of formulary apportionment or the profit-split methodology would better address the BEPs problem in the context of cloud computing.

A. BEPS Action Plan

The OECD's work on the BEPS Action Plan seeks to address these issues by adopting proposals to ensure that profits are taxed where the economic activities generating the profits are performed and where value is created.¹⁹⁰ Although cloud computing is not the focus of the action items addressing transfer pricing issues, intercompany cloud-based activities naturally involve the transfer pricing rules. This section discusses some of the recommendations put forth by the OECD to address aggressive transfer pricing and analyzes the likelihood of success in the cloud computing context. In particular, subsection 1 describes the OECD's suggestion that the use of the profit split methodology is appropriate in certain situations. Subsection 2 then discusses the OECD's recommendations for minimizing the intercompany shifting of intangibles to low-tax jurisdictions through changes to the transfer pricing rules. Finally, subsection 3 discusses the OECD's proposed rules to prevent MNEs from artificially transferring risks among group members.

1. Use of Profit Splits in the Context of Global Value Chains

With respect to the transfer pricing rules, the OECD's report suggests that the profit split method may be more reliable than one-sided methods in

D. Kleinbard, *Stateless Income*, 11 FLA. TAX REV. 699, 700 (2011) (defining the term "stateless income").

¹⁸⁹ OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 5, 8.

¹⁹⁰ See OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 20–21 (providing action plans to ensure that transfer pricing outcomes are in line with value creation). The first major batch of deliverables was published in September 2014. See generally ORG. FOR ECON. CO-OPERATION & DEV., OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT: EXECUTIVE SUMMARIES 2014 DELIVERABLES (2014) (providing recommendations for how to prevent tax avoidance by MNEs). On October 5, 2015, the OECD published thirteen final reports and an explanatory statement outlining consensus action under the BEPS project. *OECD Presents Outputs of OECD/G20 BEPS Project for Discussion at G20 Finance Ministers Meeting*, ORG. FOR ECON. CO-OPERATION & DEV. (May 10, 2015), <http://www.oecd.org/tax/oecd-presents-outputs-of-oecd-g20-beps-project-for-discussion-at-g20-finance-ministers-meeting.htm> [perma.cc/QBW9-FXGJ].

certain circumstances.¹⁹¹ For instance, where there is a high integration of functions and risks, a multisided and integrated business, multiple parties providing highly valuable and unique functions, or an integration and sharing of risks, then the profit split methods may be viewed as a means of achieving “a closer alignment between profits and value creation.”¹⁹² Similarly, where fragmentation of functions gives rise to significant challenges in finding comparable transactions, it is feasible that use of the profit split method could support outcomes of pricing based on potential comparables.¹⁹³ Thus, pursuant to the OECD’s report, taxpayers and tax administrations may apply the profit split method as the default method under certain circumstances.¹⁹⁴

In the cloud computing context, use of the profit split methods would minimize an MNE’s ability to engage in tax planning that results in BEPS. When a profit split method is used “the taxpayer has the burden of showing that its allocation of residual profits follows the substantive functions that created the MNE’s residual profits.”¹⁹⁵ Thus, use of profit split methodologies would help prevent MNEs from allocating a significant portion of their profits to low-tax affiliates that provide non-routine services and own the non-routine intangibles through intercompany agreements. Instead, when corpo-

¹⁹¹ See OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92 (asserting that the profit split method can be useful when properly applied in certain circumstances, but noting that further work remains to develop profit splitting factors that show strong correlation with value creation).

¹⁹² ORG. FOR ECON. CO-OPERATION & DEV., BEPS ACTION 10: DISCUSSION DRAFT ON THE USE OF PROFIT SPLITS IN THE CONTEXT OF GLOBAL VALUE CHAINS 10 (2014) [hereinafter OECD, DISCUSSION DRAFT ON ACTION 10]; see OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 57–61 (providing guidance on the use of the profit split method). This may not always be the case, however. For instance, an appropriate method using inexact comparables may be a more reliable method than the profit split method if the actual transaction is such that sharing of profits or losses under a profit split represents a fundamentally different commercial relationship between the parties so that a share of profits would be unlikely to represent an arm’s-length outcome. OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 57–60. Moreover, this report is not finalized with respect to guidance on the use of the profit split method. The OECD intends to provide additional guidance to distinguish the situations when the profit split method is likely to be the most appropriate method even when such circumstances exist. *Id.* at 57–61.

¹⁹³ OECD, DISCUSSION DRAFT ON ACTION 10, *supra* note 192, at 8. However, the OECD’s final report does not contain similar language to this effect. OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 57–61.

¹⁹⁴ OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 57–61; Letter from Isabel Verlinden, Partner, PricewaterhouseCoopers, Brussels, & Adam M. Katz, Partner, PricewaterhouseCoopers LLP, N.Y., to Andrew Hickman, Head, Transfer Pricing Unit, Org. for Econ. Co-operation & Dev. 2 (Feb. 6, 2015), <https://www.pwc.com/gx/en/tax/tax-policy-administration/beps/assets/beps-use-of-profit.pdf> [perma.cc/S3AE-9V5R] [hereinafter Verlinden & Katz].

¹⁹⁵ Wells & Lowell, *supra* note 8, at 761; see Treas. Reg. § 1.482-6(c)(3) (as amended in 2009) (describing the profit split method and how and when to use it).

rate synergies arising from deliberate corporate group actions provide a member of an MNE group with material advantages not typical of comparable independent companies, the residual profit associated with such synergies would generally need to be shared by group members in proportion to their contribution to the creation of the synergy.¹⁹⁶ In other words, the profit split methodology makes it difficult for companies to separate functions from the profits that they generate.¹⁹⁷ Challenges remain, however, due to the uncertainties that exist in identifying, locating, and valuing the value-drivers. These uncertainties give rise to issues in determining the extent of each entity's contribution and therefore the appropriate arm's-length price. Additional guidance would be warranted to help resolve these issues when the cloud is involved.

2. Rules to Prevent Intercompany Shifting of Intangibles

The OECD has also recommended changes to the transfer pricing rules, which seek to minimize the ability of an MNE to significantly reduce its worldwide tax liability by moving its intangibles to low-tax jurisdictions.¹⁹⁸ Specifically, the OECD recommends that the determination of which entity is the legal owner of the intangible should be treated as "separate and distinct" from the question of remuneration under the arm's-length principal.¹⁹⁹ Thus, concluding that a particular entity is the legal owner of the intangible or has funded the development of the intangible would not automatically entitle that entity to the returns from exploiting the intangible or the residual returns derived from such exploitation, even where this return may initially accrue to the legal owner as a result of its legal or contractual rights.²⁰⁰

Instead, the determination of which entities in an MNE group should be entitled to retain the economic profit from exploitation of intangibles would depend on the contributions made by each group member through functions performed, assets used, and risks assumed that contribute to the value of the

¹⁹⁶ OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 48.

¹⁹⁷ See Wells & Lowell, *supra* note 8, at 761 (noting that "[i]f the taxpayer cannot explain how a tax haven's activities functionally contributed to the creation of residual profits, it would receive a zero allocation").

¹⁹⁸ OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 63–115. The OECD has recommended changes to the OECD transfer pricing guidelines that (i) clarify the definition of intangibles; (ii) provide guidance on identifying transactions involving intangibles; (iii) provide supplemental guidance for determining the arm's-length conditions for transactions involving intangibles; and (iv) provide guidance on the transfer pricing treatment of local market features and corporate synergies. *Id.*

¹⁹⁹ *Id.* at 76.

²⁰⁰ *Id.* Instead, "[a]n associated enterprise providing funding and assuming the related financial risks, but not performing any functions relating to the intangible, could generally only expect a risk-adjusted return on its funding." *Id.* at 65.

intangible.²⁰¹ In identifying these arm's-length prices, the functions, risks, and assets that need to be assessed include those related to the development, enhancement, maintenance, protection, and exploitation of intangibles.²⁰² Through these changes, the OECD's recommendations seek to ensure that entities within an MNE group that contribute value to the intangible property, either by performing or managing development functions or by bearing and controlling risks, are appropriately rewarded for doing so.²⁰³

Unfortunately, there is no easy solution to the issue of how to price intercompany transactions involving intangibles, and many practical difficulties remain in applying these rules both within and outside of the cloud context. As discussed above, cloud computing often results in a level of integration that makes it difficult to isolate the value-drivers, including the impact of any particular intangible on the MNE group's profits. As a result, moving to the cloud presents challenges in applying the recommended changes because of the difficulties in identifying where value is created in the cloud. Despite these challenges, the OECD recommendations are a step in the right direction because they minimize the ability of companies to allocate profits to locations where the value with respect to the intangible is not created. Specifically, the OECD recommendations reduce the emphasis on the location of the legal owner of the intangibles and instead emphasize the location where the research and development funds originate, where research and development occurs, and where manufacturing, marketing, and distribution to exploit the intangibles takes place. Because it is clear that value is not created where there is no capital, where significant research and development does not occur, and where consumers are not located to benefit from the use of the intangible, the BEPS report helps to at least minimize some of the current strategies for artificially shifting profits related to intangibles.²⁰⁴

Moreover, the cloud business model often results in various members of an MNE group owning and using different intangibles and performing activities related to the development, enhancement, maintenance, protection, and exploitation of an intangible, often in a way and with a level of

²⁰¹ *Id.* at 73–74.

²⁰² *Id.*

²⁰³ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 91. The OECD has also proposed changes to address the issues presented by cost-sharing arrangements. See OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 161–81 (providing “general guidance for determining whether the conditions established by associated enterprises for transactions covered by a [cost contribution agreement] are consistent with the arm's length principle”).

²⁰⁴ See Brauner, *supra* note 12, at 75 (“[D]espite the difficulty of determining where value is created, it is not difficult to understand where it is not created.”).

integration that does not generally exist between unrelated entities.²⁰⁵ Thus, transactions involving intangibles continue to create challenges due to the lack of comparable independent transactions involving intangibles, as well as a lack of comparability between the intangibles, themselves.²⁰⁶ Given these circumstances, a thorough functional analysis does not necessarily give rise to an arm's-length result. Instead, use of the profit split method may be a more reliable method of determining the arm's-length price where it is not possible to identify reliable comparable uncontrolled transactions.²⁰⁷ Other valuation methods that depart from the arm's-length standard may also be needed to estimate the arm's-length price where comparables are unavailable.²⁰⁸ For instance, the OECD has suggested the use of ex post information as presumptive evidence as to the reliability of the information used ex ante in determining the transfer price for "hard-to-value intangibles."²⁰⁹ Similarly, the current U.S. transfer pricing rules include a "commensurate with income" standard that provides that the price for the transfer of an intangible asset may be adjusted in later years to ensure that the transfer price is commensurate with the income actually attributable to the intangible.²¹⁰ To be successful at minimizing manipulative transfer pricing prac-

²⁰⁵ See *supra* notes 79–112 and accompanying text (exploring how the cloud business model raises fundamental questions regarding how value is added, which creates difficulties in isolating the value-drivers and, therefore the relevant comparables, for an MNE group operating in the cloud). This issue also exists outside of the cloud environment. See OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 74 (listing factors that can create challenges anytime intangibles are involved); Welsh et al., *supra* note 29, at 153–54 (noting that although collaborative frameworks cause transfer pricing issues outside of the cloud, the cloud has the potential to increase the likelihood those issues arise).

²⁰⁶ OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 74.

²⁰⁷ *Id.* at 101.

²⁰⁸ See *id.* at 102 (proposing the use of income based valuation techniques, especially those "premised on the calculation of the discounted value of projected income streams or cash flows derived from the exploitation of the intangible being valued").

²⁰⁹ *Id.* at 109–10. The OECD's report defines "hard-to-value" intangibles as intangibles for which, at the time of their transfer in a transaction between related entities, (i) no sufficiently reliable comparable exists, (ii) there is a lack of reliable projections of future cash flows or income expected to be derived from the transferred intangible, or (iii) the assumptions used in valuing the intangible are highly uncertain. *Id.* at 110. Alternatively, as some commentators have suggested, formulary apportionment may be useful in this regard. See, e.g., Brauner, *supra* note 133, at 160–64 (arguing that a formula-based transfer pricing model is both practically and theoretically more desirable than the current arm's-length-based regime); Louise M. Kauder, *Intercompany Pricing and Section 482: A Proposal to Shift from Uncontrolled Comparables to Formulary Apportionment Now*, 58 TAX NOTES 485, 486–87 (1993) (arguing that § 482 already authorizes formulary apportionment, U.S. tax treaties do not prohibit it, and it is the only way for multinational organizations to achieve reasonable results).

²¹⁰ Treas. Reg. § 1.482-4(f)(2) (as amended in 2011). The "commensurate with income" standard attempts to prevent MNEs from manipulating the transfer price of intangible assets by permitting hindsight in pricing intangibles. See *id.* (citing I.R.C. § 482 (2012)). Thus, it is technically a departure from the arm's-length standard. *Id.*; Brauner, *supra* note 133, at 100–01.

tices involving intangibles, however, these types of standards need to be interpreted as a departure from the arm's-length standard and consistently applied by tax administrations.²¹¹

3. Rules to Prevent Intercompany Transferring of Risks

The BEPS Action Plan also seeks to “[d]evelop rules to prevent BEPS by transferring risks among, or allocating excessive capital to, group members.”²¹² This action item involves adopting transfer pricing rules or special measures that minimize an MNE’s ability to shift income to an affiliate merely because that entity has contractually assumed risks or provided capital.²¹³ With these goals in mind, the OECD’s report suggests that the transfer pricing rules should focus on the conduct of the parties, rather than focusing solely on intercompany agreements, when identifying which entities bear risk with respect to particular operational activities.²¹⁴ Specifically, an allocation of risk to a particular entity should not be made merely because that entity has contractually assumed the risk.²¹⁵ The OECD’s approach requires consideration of both how the risks are controlled in the business and which party’s functions enable it to face and mitigate the risks associated with business activities in making this determination.²¹⁶ The report also recommends that intercompany arrangements be disregarded for transfer pricing purposes when the transaction does not have the fundamental economic attributes of arrangements between independent parties.²¹⁷ By endorsing the view that a “commercial rationality test” is necessary to respect the transaction, the OECD’s proposal represents a departure from the arm’s-length principle.²¹⁸

²¹¹ For instance, despite the “commensurate with income” standard set forth in the U.S. transfer pricing rules, MNEs are able to artificially shift intangibles and their associated profits to low-tax jurisdictions. This standard has been unsuccessful in minimizing price manipulation due to the standard’s many exceptions and the government’s interpretation of this standard to be consistent with the arm’s-length standard. Treas. Reg. § 1.482-4(f)(2); Brauner, *supra* note 133, at 101.

²¹² OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 20.

²¹³ *Id.*

²¹⁴ OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 29, 31–32.

²¹⁵ *Id.*

²¹⁶ *Id.* at 20–25.

²¹⁷ *Id.* at 39. According to the discussion draft, a transaction would satisfy this new standard if it would “offer each of the parties a reasonable expectation to enhance or protect their commercial or financial positions on a risk-adjusted (the return adjusted for the level of risk associated with it) basis, compared to other opportunities realistically available to them at the time the arrangement was entered into.” ORG. FOR ECON. CO-OPERATION & DEV., BEPS ACTIONS 8, 9, AND 10: DISCUSSION DRAFT ON REVISIONS TO CHAPTER I OF THE TRANSFER PRICING GUIDELINES 26 (2014) [hereinafter OECD, DISCUSSION DRAFT ON REVISIONS TO CHAPTER 1].

²¹⁸ See OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 38–40 (describing circumstances in which the commercial rationality test is necessary

The goals of the BEPS Action Plan with respect to these risk issues are a necessary step to minimizing BEPS in the context of most MNE operations, including cloud computing. As recognized in the OECD's final report related to addressing the tax challenges of the digital economy, BEPS structures often involve contractual arrangements that allocate risks to low-tax affiliates in order to support larger allocations of MNE profits to this group member.²¹⁹ As discussed above, MNEs engaging in cloud computing can also benefit from structuring their legal arrangements in this manner. Because MNEs can easily create convenient intercompany contracts between different group members, these contracts are not a credible basis, in themselves, to justify the allocation of the MNE group's residual profits to the risk-taker.²²⁰ Thus, the OECD's proposal to treat contractual allocations of risk as only a starting point in the transfer pricing analysis and to increase the emphasis on the actual conduct of the parties will likely help align transfer pricing outcomes with value creation.²²¹

Despite the foregoing, like numerous other situations that require a facts and circumstances analysis, this approach may increase the unpredictability in how the transfer pricing rules are applied. Moreover, as the United States and other countries and commentators have noted, the OECD's suggestion that a "commercial rationality test" be adopted may result in turning longstanding transfer pricing principles into a series of vague concepts easily manipulated by countries to serve their revenue needs at the expense of other countries' tax bases and MNEs.²²² Thus, challenges remain even if these solutions are adopted.

to respect the transaction); Verlinden & Katz, *supra* note 194, at 7 (expressing concern that the commercial rationality test is inconsistent with the principles underlying the arm's-length standard).

²¹⁹ OECD, ACTION 1 ON TAX CHALLENGES OF THE DIGITAL ECONOMY, *supra* note 29, at 92.

²²⁰ *Id.*; Benshalom, *supra* note 105, at 435–36.

²²¹ Specifically, the OECD report states:

Establishing the conduct of the parties involves examination of all of the facts and circumstances surrounding how those enterprises interact with one another in their economic and commercial context to generate potential commercial value, how that interaction contributes to the rest of the value chain, and what the interaction involves in terms of the precise identification of the functions each party actually performs, the assets each party actually employs, and the risks each party actually assumes and manages.

OECD, DISCUSSION DRAFT ON REVISIONS TO CHAPTER 1, *supra* note 217, at 4.

²²² See, e.g., Amanda Athanasiou & Lee A. Sheppard, *OECD's Draft on Transfer Pricing Goes Beyond Arm's Length*, TAX NOTES (Dec. 22, 2014), <http://www.taxnotes.com/tax-notes-today/transfer-pricing/oecd-draft-transfer-pricing-goes-beyond-arms-length/2014/12/22/4627741> (expressing concern over the OECD's willingness to venture far beyond the arm's-length principle); Verlinden & Katz, *supra* note 194, at 2 (expressing concern that OECD guidance may encourage tax authorities to request commercial rationality analysis even when such analyses is inappropriate). The "commercial rationality test" requires consideration of whether the actual

The BEPS Action Plan also has set forth other actions that may be more successful in aligning risk allocations with the underlying economic reality of the MNE's operations. For instance, Action Item 13 involves the development of rules regarding documentation of transfer pricing, including the standardization of certain transfer pricing reports and the exchange of country-by-country reporting.²²³ The OECD report with respect to this action item contains revised standards for transfer pricing documentation and a template for country-by-country reporting of revenues, profits, taxes paid, and certain measures of economic activity.²²⁴ This documentation will provide tax administrations with better information with which to assess transfer pricing risk allocations, as well as to identify the existence of other practices that have the effect of artificially shifting substantial amounts of income to low-tax jurisdictions.²²⁵ Although the costs of compliance and safeguards to prevent abuse need to be taken into account in implementing these reporting requirements, by enhancing transparency for tax administrations, this new documentation is a crucial element of successfully addressing the BEPS problem.²²⁶

In conclusion, it is clear that the current transfer pricing rules are insufficient to overcome BEPS. Thus, by identifying and proposing recommendations to address the many difficult issues related to BEPS, the OECD's work with respect to the BEPS Action Plan is an important first step in developing a global action plan to revise the current international tax stand-

arrangements differ from those that would have been adopted by independent parties behaving in a commercially rational manner in comparable circumstances. OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION, *supra* note 100, at 39. "It is also a relevant pointer to consider whether the MNE group as a whole is left worse off on a pre-tax basis since this may be an indicator that the transaction viewed in its entirety lacks the commercial rationality of arrangements between unrelated parties." *Id.*

²²³ OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 23.

²²⁴ ORG. FOR ECON. CO-OPERATION & DEV., TRANSFER PRICING DOCUMENTATION AND COUNTRY-BY-COUNTRY REPORTING, ACTION 13: 2015 FINAL REPORT 9 (2015).

²²⁵ *See id.* at 9–10 (providing a three-tiered standardized approach to transfer pricing documentation).

²²⁶ *See id.* at 9. Potential areas for abuse of this reporting system include the risk that tax administrations will use the reports to demand a percentage of profits based on formulary apportionment of the MNE's profits or demand profits based on what similar countries are receiving. *See* Alex M. Parker, *Treasury Official: 'Policing' Needed for BEPS Global Reporting System*, 23 TAX MGMT. TRANSFER PRICING REP. 724 (2014) (noting potential areas for abuse of the reporting system and describing proposed safeguards to prevent abuse of the reports, including a reporting system for taxpayers and penalties for tax authorities); David D. Stewart, *BEPS Solutions Must Go Beyond Transfer Pricing Rules*, *Stack Says*, TAX NOTES (Oct. 1, 2014), <http://www.taxnotes.com/document/beps-solutions-must-go-beyond-transfer-pricing-rules-stack-says-0> (stressing the importance of instituting mechanisms to prevent abuse of the reports).

ards to address BEPS and restore taxation on stateless income.²²⁷ Ultimately, however, international reform that departs from the arm's-length standard is needed to overcome the BEPS challenges. Because the BEPS project recommendations continue to rely to a large extent on the arm's-length principle, which is largely consistent with the international community's general desire to maintain this long-standing standard, the BEPS Action Plan will likely not be successful in minimizing BEPS either within or outside of the cloud context.²²⁸

B. *Formulary Apportionment*

Many commentators have recommended that successful international reform should include the adoption of a system of formulary apportionment for taxing the corporate income of MNEs on a multilateral basis.²²⁹ This section considers the merits of departing from the arm's-length standard and using a formulary approach to address BEPS in the cloud context. It concludes that, although not a perfect solution, a formulary approach would help resolve many BEPS issues in the context of cloud computing.²³⁰

Under the formulary approach, an MNE is treated as a single taxpayer and its worldwide profits are allocated to a particular taxing jurisdiction based on a formula comprised of various factors.²³¹ A system of formulary apportionment would therefore eliminate the current practice of separately accounting for the income earned in each tax jurisdiction in which an MNE

²²⁷ See OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING, *supra* note 13, at 13–14 (calling for “[n]ew international standards . . . to ensure the coherence of corporate income taxation at the international level”).

²²⁸ The OECD has also recognized that “incremental approaches may help curb current trends” but will not ultimately solve many of the BEPS challenges that governments face. OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 8.

²²⁹ See, e.g., KIMBERLY A. CLAUSING & REUVEN S. AVI-YONAH, BROOKINGS INST., REFORMING CORPORATE TAXATION IN A GLOBAL ECONOMY: A PROPOSAL TO ADOPT FORMULARY APPORTIONMENT 12 (2007) (proposing the United States move to a system of formulary apportionment to help protect the U.S. tax base while reducing the distortionary features, complexity and administrative burdens of the current tax system). *But see* Fleming et al., *supra* note 124, at 2 (arguing that formulary apportionment still gives rise to distortive effects and manipulation potential and therefore proposing the adoption of a real worldwide system of taxation is the preferred approach).

²³⁰ See *infra* notes 247–250 and accompanying text.

²³¹ See CLAUSING & AVI-YONAH, *supra* note 229, at 12 (proposing to adopt a formulary apportionment system where an MNE's U.S. tax obligations would be based on a fraction of its worldwide income, the fraction being equal to the proportion of the firm's total sales occurring in the United States); Michael Durst, *Portfolio 6938-1st: A Formulary System for Dividing Income Among Taxing Jurisdictions*, BLOOMBERG BNA TAX & ACCT. CTR. FOREIGN INCOME PORTFOLIOS, § 5(D) (2015) (stating that the traditional three-factor approach which considers property, compensation, and sales revenue, should be the conceptual starting point for devising a formulary apportionment system).

operates.²³² As a result, as with the profit split method, MNEs would not be able to artificially take residual profits related to cost savings and synergies it generates by centralizing IT operations in the cloud and shift them to affiliates in low-tax jurisdictions solely through the use of the transfer pricing rules. The transfer pricing rules would no longer be relevant under a formulary apportionment approach.

Moreover, use of formulary apportionment would help address the difficulties that MNEs currently face in trying to find comparable transactions between independent parties in order to determine an arm's-length price for the intercompany transaction. A formulary approach eliminates the need to identify comparable unrelated party transactions and the need to determine an arm's-length price. Instead, this approach departs from the arm's-length standard and apportions income among related entities based on factors that focus on the MNE group's observable economic activity in each location.²³³ Therefore, formulary apportionment would minimize the significant uncertainties and transaction costs that MNEs currently face in trying to determine the arm's-length price for cloud transactions that have no easily identifiable equivalent transaction.²³⁴ It would also reduce these uncertainties and costs for tax administrations trying to enforce the arm's-length standard, especially as the cloud model continues to evolve.²³⁵

Various commentators have suggested a variety of factors to be taken into account to apportion income among jurisdictions under the formulary approach.²³⁶ Factors often considered in apportioning an MNE's worldwide income include assets, payroll and/or sales.²³⁷ These factors seek to serve as

²³² See Sheppard, *supra* note 124 (noting that treating affiliates as separate economic actors "giv[es] multinationals free reign to determine where their profits should be taxed, or more likely, not taxed").

²³³ Avi-Yonah et al., *supra* note 120, at 511; see Kimberly A. Clausing, *Beyond Territorial and Worldwide Systems of International Taxation*, 15 J. INT'L FIN. & ECON. no. 2, June 2015, at 43, 53 (identifying the essential advantage of the formulary approach as "provid[ing] a concrete way for determining the source of international income that is not sensitive to arbitrary features of corporate behavior").

²³⁴ See Avi-Yonah et al., *supra* note 120, at 512 (characterizing transfer pricing as "the most important international tax issue facing MNEs").

²³⁵ See *id.* (noting that for the U.S. government, audit costs are between three to seven times higher for federal transfer pricing cases than for state formula apportionment audits).

²³⁶ E.g., CLAUSING & AVI-YONAH, *supra* note 229, at 12; Durst, *supra* note 231, § 5(D).

²³⁷ For instance, some propose a system that would use a formula based on the destination of sales. E.g., CLAUSING & AVI-YONAH, *supra* note 229, at 12. Others suggest a three-factor formula, like the one formally used by most U.S. states, that would take into account sales, payroll, and assets. E.g., Durst, *supra* note 231, § 5(D) (stating that the traditional three-factor approach should be the conceptual starting point for devising a formulary apportionment system). A related approach that has been proposed is to employ a formulary profit split method. E.g., Avi-Yonah et al., *supra* note 120, at 498. Under this method, the tax base would be calculated as a normal rate of return on expenses, with residual profits allocated by a sales-based formula. *Id.*; Clausing, *supra* note 233, at 54. In other words, this method would allocate worldwide income based on two-

a proxy for defining and measuring economic activity. But allocating an MNE's profits on the basis of these types of factors does not sufficiently eliminate artificial tax incentives or the ability of an MNE to relocate its income to low-tax jurisdictions.²³⁸ For instance, in the cloud computing context, an asset-based factor may create an inefficient allocation of capital. Specifically, cloud computing depends heavily on servers and other IT infrastructure, which are mobile assets that an MNE can locate anywhere in the world and whose location does not generally affect the pretax income the MNE generates from its cloud operations.²³⁹ Because the servers represent an economic activity that generates value, MNEs have a tax incentive to locate their servers in low-tax jurisdictions and allocate more income to those jurisdictions. The server's location, however, does not necessarily signify the jurisdiction in which the income economically originated, which means that relying on the server location will not bring allocation of the worldwide income of an MNE group more directly in line with the location of the economic activity that gives rise to that income.²⁴⁰

An asset-based factor also does not adequately account for the common placement of mirror servers in multiple jurisdictions for load-balancing, backup, and security purposes. Even though these types of servers may not contribute as much economic value as core servers, an asset-based factor would likely allocate an equal amount of income to the jurisdictions where the mirror servers reside, thereby distorting the allocation of income. Moreover, an asset-based apportionment factor does not sufficiently address issues concerning the treatment of intangible property, which is often another significant value-driver in the cloud business model.²⁴¹ The formulary approach continues to require a determination of where the intangible property is located. But it remains unclear whether the intangible property is located at the location of the legal owner, the location of research and development, the location of the capital that funded the development of the asset, or the location of exploitation. Any formulary approach

factors: (i) a fixed imputed return on deductible business expenses, and (ii) sales. Avi-Yonah et al., *supra* note 120, at 498.

²³⁸ See Clausing, *supra* note 233, at 53 (noting that under a three-factor formula based on sales, assets, and payroll there is then an incentive to locate real economic activity in low-tax countries, which raises concerns regarding efficient capital allocation); Fleming et al., *supra* note 124, at 35 (expressing concern over the incentive under the three-factor formulary to move assets and workers to low-tax foreign countries); CLAUSING & AVI-YONAH, *supra* note 229, at 9–10, 12 (noting that a system of formulary apportionment based on the three factors would still create artificial tax incentives). The experience of the states with formulary apportionment is further evidence of the challenges in finding factors that equitably apportion income among jurisdictions.

²³⁹ Mazur, *supra* note 1, at 60.

²⁴⁰ *Id.*

²⁴¹ CLAUSING & AVI-YONAH, *supra* note 229, at 12.

implemented that utilizes the asset factor would need to address these issues.

In addition, allocating income based on the location of payroll or labor also raises challenges in the cloud computing context. As discussed above, many cloud computing services can be provided without any people or very few people involved. Thus, the location of employees may not necessarily represent the location of the MNE's value-drivers and allocating income on the basis of this factor may have distortive effects. The literature also suggests that use of a payroll apportionment factor would likely incentivize MNEs to locate employees in low-tax jurisdictions.²⁴² Because the cloud further facilitates the ability of employees to provide IT services remotely, this factor would likely also further influence an MNE's decision of where to locate its workers. Furthermore, this factor does not adequately take into account that the current rules most likely characterize cloud computing transactions as the provision of services, rather than the transfer of tangible or intangible assets. As a result, a disproportionate amount of the MNE's income may be allocated to the location of the employees as the typical providers of services. This type of allocation may cause taxation of an MNE's profits to not align with economic activity.

The third factor often considered either alone or in combination with the above factors in apportioning worldwide income is a sales-based factor. Although this factor also has its limitations, it is often considered superior to the other factors because the location of sales are often less influenced by tax considerations due to the fact that customers are generally less mobile than the MNE's assets or personnel.²⁴³ Thus, formulary apportionment on the basis of sales would minimize or altogether eliminate the amount of income allocated to the location of mobile assets, such as servers. It also better addresses existing issues of how to allocate income generated by intangible assets by allocating income to the location where the intangible prop-

²⁴² See *id.* (characterizing the three-factor formulary apportionment approach as creating an implicit tax on the three factors, thus discouraging their use in high-tax jurisdictions); Fleming et al., *supra* note 124, at 35 (noting that a three-factor formulary approach may incentivize MNEs to move their workers to low-tax jurisdictions).

²⁴³ CLAUSING & AVI-YONAH, *supra* note 229, at 12; see Susan C. Morse, *Revisiting Global Formulary Apportionment*, 29 VA. TAX REV. 593, 605–06 (2010) (“The inelasticity of sales follows from significant business incentives to increase sales to customers, which should minimize the importance of tax incentives to assign sales to different locations.”). In fact, U.S. states have increasingly adopted formulary apportionment formulas based solely on the destination of sales. Durst, *supra* note 231, § 2(B)(1). But note that taxpayers may try to distort the location of their sales by using independent distributing agents in low-tax jurisdictions for their sales. See CLAUSING & AVI-YONAH, *supra* note 229, at 20 (noting, however, that the risk of distortion may be limited by the unwillingness of the taxpayer to relinquish control over marketing and distributing activities); Fleming et al., *supra* note 124, at 41–42 (exploring ways in which a MNE could manipulate the customer component and shift income to low-tax jurisdictions).

erty is used. This would eliminate the need to make the difficult determination of which entity or entities are the true economic owners of the asset. Moreover, in the cloud computing context, a sales factor that bases sales on the location of the customer may also better align taxation with the location of value creation because cloud-related income generally has an observable economic connection to the customer's location.²⁴⁴

A destination sales-based factor, however, also creates administrative and enforcement difficulties due to the nature of cloud computing. In particular, the location from which customers access an MNE's cloud-based goods or services may change frequently and the location can be difficult for the MNE group, as well as tax administrations, to determine accurately.²⁴⁵ In addition, a sales-based factor would have to address how to allocate the income among the different jurisdictions in which the MNEs customers are located because some fixed-based measurements, such as seat licenses, head count, or users, may not reflect the true usage of the cloud computing services as accurately as volume-based measurements.²⁴⁶ A sales-based factor on its own also may not be the most equitable, because it focuses solely on the market jurisdiction, thereby failing to allocate tax revenues to the country of production.

Despite these shortcomings, both a formulary apportionment approach and a profit split methodology approach would improve the current situation more than the current rules that rely on the arm's-length standard. These approaches do not require an identification of comparable unrelated transactions, which is often difficult to do, nor do they require an analysis of the MNE group's functions, risks, and assets, which is often subject to the MNE group's control. The reliance on these features to determine an arm's-length price for intercompany transactions has largely contributed to the failure of these rules.²⁴⁷ Moreover, these approaches also eliminate the need for separate accounting, which has contributed to the proliferation of paper

²⁴⁴ Mazur, *supra* note 1, at 61.

²⁴⁵ *Id.* at 28–29. Moreover, as one scholar notes, taxpayers can also obscure the location in which products or services are actually being consumed or used by routing sales destined for high-tax countries through intermediaries in zero- or low-tax countries, which creates additional difficulties in determining the destination of sales in today's digitalized marketplace. Michael C. Durst, *The Tax Policy Outlook for Developing Countries: Reflections on International Formulary Apportionment* 12 (Int'l Ctr. For Tax. & Dev. Working Paper 32, Feb. 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2587860 [perma.cc/6JPE-QFG2]. The current permanent establishment rules also create difficulties because these rules generally do not treat the mere destination of sales as a basis for taxable nexus. *Id.*

²⁴⁶ See Welsh et al., *supra* note 29, at 152 (noting the difficulties involved in determining the appropriate metric to allocate costs through the services cost method).

²⁴⁷ See Avi-Yonah et al., *supra* note 120, at 517 (asserting that the two elements that have caused the current regulations to fail are "reliance on 'uncontrolled comparables' and 'functional analysis' based on the taxpayer's facts and circumstances").

profits. As some commentators have noted, “while a truly precise definition and measurement of economic value is likely unattainable,” a formulary approach may provide a “reasonable, comparatively administrable, and conceptually satisfying compromise that suits the nature of the global economy.”²⁴⁸ Significantly, because the arm’s-length standard has become a nearly worldwide standard for determining the transfer price between related entities, these and any other proposals that depart from the arm’s-length method will need to overcome substantial political hurdles and may create more uncertainty for taxpayers.²⁴⁹ Moreover, for this approach to succeed in preventing double taxation, as well as eliminating non-taxation, multilateral coordination and implementation of this type of approach are essential to minimizing the discrepancies between the rules that permit BEPS.²⁵⁰

CONCLUSION

As MNEs move their business to the cloud, they face new challenges in trying to determine the arm’s-length price of their intercompany cloud computing transactions. The current international tax rules have not kept up with the changing business environment brought about by the evolution of technology, which has given rise to many difficulties in applying the transfer pricing rules to intercompany cloud-based activities. Because of these difficulties, cloud computing will likely give rise to an increase in tax disputes between MNEs and tax administrations. At the same time, the mobile and borderless nature of cloud computing, together with the uncertainties created by the current transfer pricing rules, will likely contribute to the current BEPS problem by facilitating an MNE’s ability to artificially shift profits to low-tax jurisdictions. The BEPS Action Plan, which attempts to encompass a multilateral solution, is a step in the right direction, but will likely fail to eliminate BEPS. Instead, the new economy requires innovative solutions that involve international coordination and cooperation and depart from the arm’s-length standard.²⁵¹ Thus, as argued in this Article, the global

²⁴⁸ *Id.* at 511.

²⁴⁹ See Verlinden & Katz, *supra* note 194, at 1 (noting that the OECD discussion draft on the use of profit splits in the context of global value chains “cover many of the most controversial areas of transfer pricing and pose many questions with differing, reasonable (and sometimes contradictory) opinions as to how to best approach them”).

²⁵⁰ See OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 6–8, 28, 39 (stressing the importance of developing a uniform tax policy to prevent hybrid mismatch arrangements); Brauner, *supra* note 12, at 79–80 (noting how different countries employing different tax rules to similar circumstances can lead to double non-taxation); CLAUSING & AVI-YONAH, *supra* note 229, at 19 (identifying the prevention of double taxation and non-taxation as goals of the formulary apportionment approach).

²⁵¹ See OECD, ADDRESSING BASE EROSION AND PROFIT SHIFTING, *supra* note 8, at 8 (emphasizing the importance of “revisit[ing] some of the fundamentals of the existing standards”

adoption of a system of formulary apportionment or the profit-split methodology is necessary to resolve many BEPS issues in the context of cloud computing. Unfortunately, because an international solution that departs from the arm's-length standard is not likely to occur anytime soon, the BEPS problem is likely to remain.

when creating a comprehensive action plan to address BEPS); Brauner, *supra* note 12, at 72 (stressing the necessity of innovation solutions to address BEPS); Jones, *supra* note 29, at 21 (asserting that a plan that effectively addresses BEPS must be “coordinated, concerted and comprehensive”).

