eJournal of Tax Research (2020) vol. 17, no. 2, pp. 280-320

Value creation within multinational platform firms: a challenge for the international corporate tax system

Victoria Plekhanova*

Abstract

This article uses the example of Google to discuss value creation within multinational platform firms and the tax challenges resulting from a disconnect between the current international corporate tax system and economic reality brought about by digitalisation.

Key words: multisided market, platform firm, user participation, synergy rent, Google

* Lecturer, Business School, Massey University (Auckland, New Zealand), v.plekhanova@massey.ac.nz.
The author is grateful to three anonymous reviewers and Associate Professor Chris Noonan for valuable comments.

1. INTRODUCTION

> 'The challenge facing us now is to re-engineer the flow of information through the enterprise. And not only within the enterprise – the entire value chain is up for grabs'.[1]

> '[The] intangible nature of bits and their ability to be stored in any location that depends less on a physical as opposed to a logical determination, creates opportunities for policy arbitrage across jurisdictions and challenges policies that rely on the geographic location of the digital activity where value creation occurs. … Lastly, value mobility and the global reach of the Internet enable value creation, transaction and interaction regardless of location and borders, which may challenge traditional principles of territoriality, geographically based communities and sovereignty'.[2]

A platform firm, or digital 'matchmaker', is a relatively new business model that has become possible because of the invention, globalisation and commercialisation of the Internet. A new 'platform economy' brought about by digitalisation has arisen, and in this economy firms increasingly 'will either operate "as" a platform or be "integrated" with a platform'.[3] The rise of the platform economy has required the rethinking of laws and policies in many areas, including competition law, national security, privacy and taxation.

The idea that the business profits of multinationals should be taxed where value is created[4] has been described as the 'new gold standard'[5] or the key 'principle' for the allocation of business profits among tax jurisdictions.[6] The principle does not provide clear guidance for the international allocation of these profits.[7] This article explains how

---

[1] Hal R Varian, 'Competition and Market Power' in Hal R Varian, Joseph Farrell and Carl Shapiro, *The Economics of Information Technology: An Introduction* (Cambridge University Press, 2004) 1, 11. Varian is an academic and the chief economist at Google.

[2] Organisation for Economic Co-operation and Development (OECD), *Digital Economy Outlook 2017* (OECD Publishing, 2017) 27.

[3] Mark Fenwick, Joseph A McCahery and Erik P M Vermeulen, 'The End of "Corporate" Governance: Hello "Platform" Governance' (Lex Research Topics in Corporate Law and Economics Working Paper No. 2018-5, 16 August 2018) 7-8.

[4] The idea appeared in the framework of the Base Erosion and Profit Shifting (BEPS) project launched by the G20 and the OECD in 2013: see OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 2015) 136; OECD, *Actions 8-10 – 2015 Final Reports: Aligning Transfer Pricing Outcomes with Value Creation*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 2015).

[5] Marcel Olbert and Christoph Spengel, 'International Taxation in the Digital Economy: Challenge Accepted?' (2007) 9(1) *World Tax Journal* 3, 9.

[6] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, Inclusive Framework on BEPS (OECD Publishing, 2018) paras 397-398.

[7] For a critique of the value creation principle see, for instance, International Monetary Fund (IMF), 'Corporate Taxation in the Global Economy' (IMF Policy Paper, March 2019) 18-19 [31]. See also Wolfgang Schön, 'One Answer to Why and How to Tax the Digitalized Economy' (Max Planck Institute for Tax Law and Public Finance Working Paper No. 2019-10, 25 June 2019) 5-6, 13; Johannes Becker and Joachim Englisch, 'Taxing Where Value is Created: What's "User Involvement" Got to Do with It?' (1 October 2018) 1, https://ssrn.com/abstract=3258387; Michael P Devereux and John Vella, 'Value Creation As the Fundamental Principle of the International Corporate Tax System' (European Tax Policy Forum Policy Paper, 31 July 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3275759; Susan C Morse, 'Value Creation: A Standard in Search of a Process' (2018) 72(4/5) *Bulletin for International Taxation* 196, 197; Johanna Hey, '"Taxation Where Value is Created" and the OECD/G20 Base Erosion and Profit Shifting Initiative' (2018) 72(4/5) *Bulletin for International Taxation* 203, 203-208; Michael P

the value created by a multinational platform firm cannot be neatly divided into independent country-related segments under the existing international corporate tax system.[8] The rise of the platform firms, it is argued, requires that the global community rethinks its approach to international tax policy.

A 'platform firm' can be defined in many ways. For the purposes of current discussion, the most useful definitions are: a 'two-sided market with demand- and supply-side actors',[9] and an 'intermediary that enable exchange between players'.[10] In essence, the firm produces multiple products simultaneously and organises its business activities in such a way that the customers of one product will attract customers for another product produced by the same firm.[11]

Platform firms produce digital services and use 'web platforms' in their production and value creation processes. Web platforms (also known as 'digital platforms') are complex structures on the Web made up of linked web servers and software. These structures are designed for web interaction and processing of data and content provided by third parties on the Web.[12] Platform firms use web platforms to facilitate web interactions with and among their customers. Some of these customers are individuals or 'users'; other customers are businesses. Put slightly differently, platform firms use 'places of interaction'[13] to facilitate 'exchanges between businesses and consumers',[14] to generate profit from providing 'digital intermediation services'.[15] Platform firms have become popular because their business structures are highly efficient.[16]

A platform firm generates a multisided market because it 'creates value primarily by enabling direct interactions between two (or more) distinct types of affiliated customers'.[17] This article distinguishes a platform firm, which is a commercial enterprise, from a multisided market, which is the business structure that a platform firm uses to generate value.

Devereux and John Vella, 'Implications of Digitalization for International Corporate Tax Reform' (Oxford Centre for Business Taxation Working Paper No. 17/07, July 2017) 8; Michael P Devereux and John Vella, 'Are We Heading Towards a Corporate Tax System Fit for the 21st Century?' (2014) 35(4) *Fiscal Studies* 449, 463-468.

[8] See section 4 of this article.

[9] Jean-Charles Rochet and Jean Tirole, 'Platform Competition in Two-sided Markets' (2003) 1(4) *Journal of the European Economic Association* 990.

[10] Avi Goldfarb and Catherine Tucker, 'Digital Economics' (NBER Working Paper No. 23684, August 2017) 13.

[11] See David S Evans and Richard Schmalensee, *Matchmakers: The New Economics of Multisided Platforms* (Harvard Business Review Press, 2016).

[12] For more detail see Edward O'Connor, 'The Web Platform: What It Is?' (blog post of 21 May 2009), http://edward.oconnor.cx/2009/05/what-the-web-platform-is.

[13] Joni Salminen, 'Startup Dilemmas – Strategic Problems of Early-stage Platforms on the Internet' (Working Paper Series A-12:2014, Turku School of Economics, 2014).

[14] Australian Treasury, *The Digital Economy and Australia's Corporate Tax System* (Discussion Paper, October 2018) 30.

[15] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 186, para 443.

[16] Bruno Jullien, 'Two-Sided B to B Platforms' in Martin Peitz and Joel Waldfogel (eds), *The Oxford Handbook of the Digital Economy* (Oxford University Press, 2012) 161, 163. See also Simon P Anderson, 'Advertising on the Internet' in Martin Peitz and Joel Waldfogel (eds), *The Oxford Handbook of the Digital Economy* (Oxford University Press, 2012) 355, 357-393.

[17] Andrei Hagiu and Julian Wright 'Multi-Sided Platforms' (Working Paper No. 12-024, Harvard Business School, 12 October 2011) 7.

The digital economy has created many tax challenges.[18] In this article, the focus is on the failure of the international corporate tax system to allocate profits from cross-border business activities of platform firms in accordance with value creation. It uses the example of Google[19] to explain how platform firms create value and why this process of value creation results in the tax challenges when these firms operate in many states.

Not all entities that make up a multinational firm are necessarily involved in the operation of a multisided market. For instance, what is known as 'Google' or the 'Google segment'[20] is the largest part business unit of Alphabet Inc, a holding company incorporated in October 2015.[21] This unit, but not Alphabet Inc in its entirety, can be referred as a 'multinational platform firm'. For ease of exposition, this article refers to the entities of a multinational platform firm that are involved in the operation of such a firm's multisided market as a 'platform firm'.

Not all platform firms are multinational, but the ones that create the greatest tax challenges from an international tax perspective are multinational. This article examines multinational platform firms from both an economic (sections 2 and 3) and a tax perspective (sections 4 and 5).

Understanding value creation processes is critical to the design of international tax policy. In this context, the article discusses the structure of platform firms (section 2) and the typical process of value creation within a platform firm (section 3). This discussion is built upon several streams of economic thought. First, the article briefly considers strategic management theories of the firm and their evolution. The analysis assists in understanding why some firms are organised as platforms. Second, the platform theory of Rochet and Tirole,[22] combined with the theory of network effects introduced by Katz and Shapiro,[23] provides an explanation of the process of value

---

[18] For a definition of 'broader tax challenges' in the digital economy see OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 146-147, paras 376-380.

[19] Google was created with the incorporation of Google Inc in California (the US) in September 1998. Google Inc, the ultimate parent company of the firm, was reincorporated in Delaware (the US) in August 2003. See Alphabet Inc and Google Inc, *Annual Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934 (form 10-K) for the Fiscal Year Ended on December 31, 2015* (2015) 58, https://abc.xyz/investor/static/pdf/20151231_alphabet_10K.pdf?cache=5400095 (accessed 31 January 2020).

[20] Google's principal business is selling Internet advertising services and other digital products and intermediation services worldwide. The Google entities also produce goods (eg, virtual reality headsets) and technical infrastructure (eg, cloud infrastructure). See Alphabet Inc, *Annual Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934 (form 10-K) for the Fiscal Year Ended on December 31, 2018*
(2019) 26, https://abc.xyz/investor/static/pdf/20180204_alphabet_10K.pdf?cache=11336e3 (accessed 22 January 2020).

[21] Amended and Restated Certificate of Incorporation of Alphabet Inc, https://abc.xyz/investor/static/pdf/alphabet-certificate-of-Incorporation.pdf?cache=89d188b (accessed 31 January 2020).

[22] Rochet and Tirole, above n 9; Jean-Charles Rochet and Jean Tirole, 'Two-sided Markets: A Progress Report' (2006) 35(3) *The Rand Journal of Economics* 645.

[23] Michael Katz and Carl Shapiro, 'Network Externalities, Competition, and Compatibility' (1985) 75(3) *The American Economic Review* 424. For further economic discussion of network effects and interconnection, see Jacques Crémer, Patrick Rey and Jean Tirole 'Connectivity in the Commercial Internet' (2000) 48(4) *Journal of Industrial Economics* 433; Jean-Jacques Laffont, Scott Marcus, Patrick Rey and Jean Tirole, 'Internet Interconnection and the Off-Net-Cost Pricing Principle' (2003) 34(2) *The Rand Journal of Economics* 370; Bernard Caillaud and Bruno Jullien, 'Chicken & Egg: Competition among Intermediation Service Providers' (2003) 34(2) *The Rand Journal of Economics* 309. See also David S

creation within a platform firm. These theories show that customers on one side of the firm's multisided market derive value from the presence of the customers on the other side of this market. This cross-demand affects the overall size of the pie (ie, the value created in the economy) and the firm's share of this pie.

The subsequent sections of the article then draw on this economic analysis of platform firms. Section 4 provides a brief overview of the model applied under the current international corporate tax system for the international allocation of business profits. Section 5 brings the strands together. It shows that there is a disconnect between the current international corporate tax system and the economic reality of multinational platform firms. The article concludes (section 6) that the allocation of the business profits of multinational platform firms in accordance with value creation requires fundamental changes of the entire model applied for this allocation under the international corporate tax system.

2. PLATFORM FIRMS

2.1 How does a firm create value?

Michael Porter's view of the firm and its value creation process[24] remains highly influential.[25] Under this view, in essence, a firm is an entity that operates on a market and converts inputs into final outputs.[26] Professor Porter's view of the firm and its value creation process provides a good explanation of the price and output decisions of the firm. His analysis, however, has been criticised for being too abstract and for focusing on markets rather than an organisation of a firm.[27] It also fails to explain and deal with a firm's growth.[28] The discussion of the complex process of value exchanges within a multisided market shows that the Porter model is unable to fully account for the value creation process within platform firms.[29]

Another group of theories of the firm and value creation has become increasingly influential, especially with business managers dealing with firms operating in dynamic environments.[30] These economic theories, which are based on the resource-based theory of the firm of Penrose[31] and the dynamic capabilities theory of Teece,[32] explain how firms grow and acquire sustainable competitive advantages.

Evans, 'How Catalysts Ignite: The Economics of Platform-based Start-Ups' in Annabelle Gawer (ed), *Platforms, Markets and Innovation* (Edward Elgar Publishing, 2011) ch 5; Jullien, above n 16.

[24] Michael E Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (The Free Press, 1980).

[25] Christos N Pitelis, 'Economic Theories of the Firm, Business, and Government' in David Coen, Wyn Grant and Graham Wilson (eds), *The Oxford Handbook of Business and Government* (Oxford University Press, 2010) 35, 41.

[26] Michael E Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (Free Press; Collier Macmillan, 1985) 39-40.

[27] For a critique of Porter's view of the firm, see Pitelis, above n 25, 37-42. See also John Kai, 'Theories of the Firm' (2018) 25(1) *International Journal of the Economics of Business* 11, 11-17.

[28] Pitelis, above n 25, 37-42.

[29] See section 3.3.1 of this article.

[30] Pitelis, above n 25, 44-45.

[31] Edith T Penrose, *The Theory of the Growth of the Firm* (Oxford University Press, 3rd ed, 1995).

[32] David Teece, Gary Pisano and Amy Shuen, 'Dynamic Capabilities and Strategic Management' (1997) 18(7) *Strategic Management Journal* 509. See also David Teece, 'Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy' (1986) 15(6) *Research Policy*

The resource-based view of the firm suggests that a firm's competitive advantage evolves from its ability to exploit the strategic resources under its own control.[33] The dynamic capabilities theory of the firm explains how a firm can have 'invisible assets', which are or give the firm its 'capabilities'[34] or 'dynamic capabilities',[35] and how these assets can generate value in the form of economic rents.[36] Capabilities 'add to the value of the firm, but cannot be identified or priced specifically. As a result, their benefits can be observed in what appears to be a higher than fair market return on visible assets, but their exact workings are not observable'.[37] The dynamic capability theory explains how value can be added through interactions within a firm. This theory also can explain how platform firms extract value from interactions of their own customers and network effects.[38]

2.2 Hierarchy *vs.* network

The commercialisation of the Internet and the rise of outsourcing have challenged the traditional view of the firm as an independent economic unit with a hierarchical internal structure. A view of the firm as a hierarchy has given way to a view of the firm as a network in the business organisations and strategy literature.[39] In the network firm, a parent entity is in the centre (from its perspective) of an extended network of subsidiaries and business units, which are subject to different degrees of control from the centre, different interactive ties to each other and different degrees of dependency upon external relationships in order to function.[40] The boundaries between the network firm and the world, especially in high-tech industries, are blurred.[41]

In the network firm relationships are based 'on functional needs and efficiencies rather than ownership and formal specifications'.[42] Each subsidiary or business unit of a network firm offers its unique capabilities to the entire network and, therefore, contributes to the general process of value creation. When a firm is seen as a network

285; David Teece, 'Towards a Capability Theory of (Innovating) Firms: Implications for Management and Policy' (2017) 41(3) *Cambridge Journal of Economics* 693.

[33] Nick Wills-Johnson, 'The Networked Firm: A Framework for RBV' (2008) 27(2) *Journal of Management Development* 214, 214.

[34] Capabilities are 'processes, systems, and structures that are at the core of the firm. While they involve the people of the firm, they are diffuse, not focused on any individual, and they are usually team-based, involving the interaction of many individuals'. Capabilities are tacit – 'they cannot be fully described, and they are embedded in the firm and cannot be taken out of it with any individual'. Capabilities are unique – 'the exact sequence of activities, set of ideas, or interaction of people that generates more efficient processes are not knowable – and therefore are not easily imitated, misappropriated, bought and sold, or replaced'. Stephen Tallman, 'Dynamic Capabilities' in Andrew Campbell and David O Faulkner (eds), *The Oxford Handbook of Strategy: A Strategy Overview and Competitive Strategy* (Oxford University Press, 2006) 378, 381-382.

[35] Dynamic capability is 'the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments'. Teece, Pisano and Shuen, above n 32, 516.

[36] Tallman, above n 34, 381-382.

[37] Ibid 382-383.

[38] See section 3.3.2 of this article.

[39] Tallman, above n 34, 407.

[40] Ibid 407-408.

[41] Gary P Pisano and David J Teece, 'How to Capture Value from Innovation: Shaping Intellectual Property and Industry Architecture' (2007) 50(1) *California Management Review* 278; Ron Adner and Rahul Kapoor, 'Value Creation in Innovation Ecosystems: How the Structure of Technological Interdependence Affects Firm Performance in New Technology Generations' (2010) 31(3) *Strategic Management Journal* 306, 309-311, 327-329.

[42] Tallman, above n 34, 407-408.

and a part of a broader network, the firm's unique capabilities add value to the final product offered to a customer and also increase the overall size of a value pie. This pie, which is a sum of value created for the firm and its customers, is discussed in section 3.2 and the value proposition in section 3.3 of this article.

2.3 A platform firm

The idea of a network firm has evolved further into the concept of a platform firm (or a 'smart platform'). This is a firm that organises its 'internal' operations to facilitate collaboration amongst multiple stakeholders to deliver constant innovation in the functionality of the platform and related products and services. These various stakeholders are not limited to managers, employees, and investors, but also include (crucially) consumers, developers, content creators, other companies (both large and small), non-profits, educational institutions, governments, and others.[43]

Fenwick, McCahery, and Vermeulen have analysed the structure of the world's largest tech companies and concluded that each of these companies is a platform firm that 'creates value by facilitating exchanges between different but interdependent groups of "creators and extractors of value"'.[44] As a result of this facilitation the platform firm generates profits for itself.[45]

Exchanges between different groups of customers are at the core of a platform firm. Therefore, it can be concluded that capabilities of a platform firm involve not only 'the people of the firm'[46] but also the firm's own customers.

3. VALUE CREATION WITHIN A PLATFORM FIRM

This section analyses the process of value creation within a platform firm. This analysis includes a brief overview of pricing in a platform firm (subsection 3.1) and discussion of the value pie created by a platform firm (subsection 3.2). Finally, by using the example of Google (subsection 3.3), it explains how the participation of third parties (ie, platform users and nation states) affects dynamic capabilities of a platform firm and, as a result, affects the size of the firm's share of the value pie.

3.1 Pricing in a platform firm

The way platform firms price their services is core to the very existence of these firms. Platform firms are, in effect, multisided markets and, therefore, need participants on all sides of their platforms. These firms bring the various participants together through specific pricing strategies. The pricing strategies in platform firms deal with the so-called chicken-and-egg problem where customers on one side of a platform are willing to participate in the platform activity only if there is a sufficient participation level on the other side.[47] Consider, for example, that the ability of a newspaper to attract advertisers and the setting of the price of advertising is tied to the newspaper's circulation, which is linked with the price (if any) for the newspaper.

---

[43] Fenwick, McCahery and Vermeulen, above n 3, 7.
[44] Ibid 6.
[45] Ibid.
[46] Tallman, above n 34, 381-382.
[47] For more detail see Caillaud and Jullien, above n 23.

Firms with a single-sided business need to decide only on prices for their products. In platform firms the process of value creation is more complicated. Platform firms often have a subsidy side and a money side.[48] When platform firms are multisided markets with a subsidy side and a money side, these firms charge the customers on the subsidy side prices that do not cover the cost of the product being supplied. There are many different models of how services on each side of the multisided market are priced.[49] Sometimes nothing is charged for the products or some reward is provided for using the product. At the same time, prices paid by customers on the money side are set so as to cover not only the costs of the product on this side, but also any losses on the subsidy side. Even if there is no subsidy side, the firm needs to decide on both an overall price level and price structure (ie, how much to charge and how much to earn on each side of the platform relative to the other side in light of the interaction between the two sides of the market).[50]

3.2 The value pie

Business activity is intended to create value – the value pie. In the case of the production of goods or services, it will usually create value for both the producers and consumers. The value pie, therefore, will be divided between a business and its customers. Value for businesses is created when revenue from an economic activity exceeds expenses incurred. At the same time, an economic activity, such as the production of goods or services, is also related to the creation of value for customers in two ways. First, customers receive value when they willingly exchange money for the goods or services. Second, creating value for customers helps sell products and increase revenue. Both the producer or supplier and the customer can be seen as sharing a single value pie. As Evans and Schmalensee have explained:

> [a] regular business has to make sure that its customers are getting good value – that what they get is worth more than what they pay. And it has to ensure that it is making a profit – that the revenue it gets covers its costs and delivers a good rate of return for the business and its investors. It has to divide the value pie between itself and its customers so both it and its customers are happy.[51]

The share of the value pie left to the customers depends upon the price and the customers' valuation of the product. The share of the value pie going to a firm depends on both its sales revenue and the costs of producing and selling its products to customers.[52] Accordingly, sales revenue and the costs of production directly affect the size of a firm's share of the value pie.

For a platform firm, like any other firm, not only the size of its share of the value pie, but also the size of the entire pie, is important. The difference is that a platform firm has customers on different sides of its multisided market. The size of the value pie produced by a platform firm should be large enough 'to give every group [of customers] a large enough slice to convince them to stay, and to leave itself enough to cover its costs and

---

[48] Evans and Schmalensee, above n 11, 33.
[49] Jullien, above n 16, 165-166.
[50] Evans and Schmalensee, above n 11, 91.
[51] Ibid 57.
[52] See 'profit' and 'margin' in Jonathan Law and John Smullen (eds), *A Dictionary of Finance and Banking* (Oxford University Press, 4th rev ed, 2008).

provide a good rate of return'.[53] As explained further in the next section, Google attracts customers on the money side of its multisided market by its attraction of customers on the subsidy side of this platform. The firm constantly improves services on both sides of the platform and spends a significant portion of its income on the acquisition of user traffic to web platforms and websites that are parts of Google's global platform business.[54]

3.3 Value chain *vs.* value exchange

3.3.1 The external perspective of the value creation process: the value exchange

A firm, and the way that it generates value, can be viewed from external and internal perspectives. Both perspectives are helpful in understanding value creation in platform firms. The external perspective is reflected in the traditional structure-conduct-performance model of industrial organisation theory.[55] This model focuses on the environment external to the firm and the interactions of the firm with its environment. From this perspective, a firm generates value as a result of its interaction with the environment or third parties operating within this environment.

The generation of value from business activity involves production and distribution processes. Production is the act of transforming inputs into outputs.[56] Inputs, also known as factors of production, are the resources such as land (and other natural resources), labour (including all human work and skill), capital (including all money, assets, machinery, raw materials, etc.), and entrepreneurial ability (including organisational and management skills, inventiveness, and the willingness to take risks). Outputs are products (goods or services) produced with the use of inputs. The relationship between the quantity of inputs used to make a product and the quantity of output constitutes the production function.[57] In general, the production function describes the maximum output obtainable from any given combination of inputs.[58] Inputs add value, which contributes to the overall value creation, individually or in combination with other inputs. Distribution process, in the context of the current discussion, is the act of moving goods and services from producers to final consumers,[59] which may also add value to the product, and again contribute to the overall value creation. Value added to the final

---

[53] Evans and Schmalensee, above n 11, 57.

[54] For instance, in the fiscal year 2018 traffic acquisition costs as a percentage of advertising revenue were 23.0 per cent, including through payments to web publishers participating in the Google AdSense program for access to their websites and web content, and payments to third parties for the distribution of Google's browser Chrome and for redirecting search queries to Google websites. See Alphabet Inc, Annual Report Pursuant to Section 13 or 15 (d), above n 20, 32.

[55] For explanations of the structure-conduct-performance model, see Michael E Porter, 'The Contributions of Industrial Organization to Strategic Management' (1981) 6(4) *The Academy of Management Review* 609. For the history of the origin of the structure-conduct-performance model, see Manuela Mosca, 'Industrial Organization' in Gilbert Faccarello and Heinz D Kurz (eds), *Handbook on the History of Economic Analysis, Volume III: Developments in Major Fields of Economics* (Edward Elgar Publishing, 2016) 291, 297-298.

[56] See 'production function' in Craig Calhoun (ed), *Dictionary of the Social Sciences* (Oxford University Press, 2002).

[57] Ibid.

[58] David N Hyman, *Public Finance: A Contemporary Application of Theory to Policy* (Cengage Learning, 11th ed, 2014) 44.

[59] See 'distribution' in John Black, Nigar Hashimzade and Gareth Myles (eds), *A Dictionary of Economics* (Oxford University Press, 5th ed, 2017).

product is measured in terms of the price of the final output relative to the cost of the inputs before that product is sold.[60]

When a firm has a single-sided business, value creation usually can be represented as the linear process described by Porter in his generic value chain model.[61] A value chain is a multi-step process. Each step is associated with a different type of economic activity and constitutes a part of the entire production processes of the firm. In Porter's value chain model, these activities are divided into two categories: primary or support. Primary activities are directly related to the production and distribution of products by a firm, while support activities improve the performance of primary activities.[62] In addition to individual value-adding activities, the generic value chain model also suggests there is an additional source of value creation from the coordination of the individual value-adding activities, which is reflected in the difference between the total value of a final product and the collective cost of value-adding activities.[63]

In platform firms the production of products, and the associated value creating process, cannot be explained through the concept of the value chain. The OECD's interim report on digitalisation has described three concepts or models of value creation: the value chain (described above), the value network and the value shop, which are employed by businesses today.[64]

Google and other multinational platform firms generally reflect a value network model of value creation described in the OECD's interim report:[65]

> Value networks rely on a mediating technology: a technology used by platform operators to link customers interested in engaging in a transaction or relationship (whether for financial consideration or not). The mediating technology facilitates exchange relationships among end-users distributed in space and time.[66]

The value network model, like the traditional value chain model, views the value creation process as a linear process, albeit augmented with certain additional features, such as networks effects.[67] The linear model does not reflect the fact that in a platform firm value is created by a triangular set of interactions between different groups of actors (eg, a platform firm acting as a platform operator, Internet users and advertisers). As a result of these interactions value is created not only for the platform firm but also for its customers on all sides of the firm's multisided market.

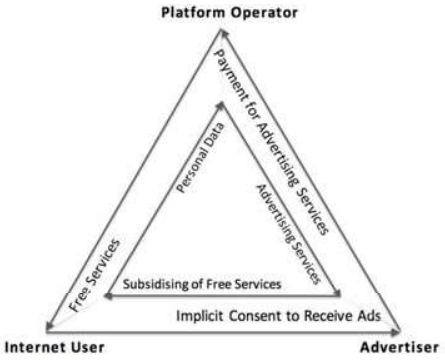
As discussed above, the profitability of a firm with a single-sided business depends on the collective cost of production and the total value of an economic product. Profitability of a platform firm is a result of an overall cycle of exchanges of resources and products

---

[60] See ibid, 'value added'.
[61] Porter, *Competitive Advantage*, above n 26, 39-40.
[62] Ibid.
[63] Ibid 38.
[64] See OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 35–81.
[65] In its Interim report on digitalisation the OECD has described three models of value creation: the value chain, the value network and the value shop. See ibid.
[66] Ibid 38, para 81 and 43, Figure 2.5 'Three concepts of value creation'.
[67] A network effect is an 'internalised' positive network externality that creates a demand-side economy of scale. For more detail see section 3.3.2 (iii) of this article.

that take place between the firm and its customers on all sides. This is illustrated by Figure 1 in relation to Internet advertising.

Fig. 1: Value Creation in a Platform Firm that Derives Income from Internet Advertising Services



Source: author.

The resources that a platform firm uses for the production of products in the multisided market in which it operates may not necessarily be wholly produced (or acquired) by the firm. For instance, in its global digital platform for Internet advertising,[68] Google uses resources provided by or obtained from Internet users (eg, personal data, web content and web interaction). These resources are not merely incidental, but core to the provision of the digital services.[69]

In the case of Google, the collection and analysis of personal data makes possible the production of personalised Internet ads. Personal data is often a non-rivalrous capital good that, in theory, could be used simultaneously by many economic actors for the production of an unlimited number of goods and services.[70] Google collects personal data either directly from Internet users (eg, through its web search platform) or through third party web publishers participating in Google's ad network. Google often (but does not always) request that these third party web publishers install tracking software on Internet browsers or on the electronic devices belonging to the Internet users who visit their websites. Google may also acquire (at a price) personal data from data collecting agencies and operators of data exchange platforms.[71] For Google, personal data is a vital

[68] Google's global digital platform for Internet advertising is a complex network of web platforms. This network operates in many states and sometimes is referred as 'global digital platform'. For more detail see Victoria Plekhanova 'Global Matchmakers: Tax Challenges and Responses in the Digital Economy' (Doctoral Thesis, University of Auckland, 2017) section 3.2.

[69] Eric A Posner and E Glen Weyl, *Radical Markets: Uprooting Capitalism and Democracy for a Just Society* (Princeton University Press, 2017) 214-218, 224-230.

[70] OECD, *Data-Driven Innovation: Big Data for Growth and Well-Being* (OECD Publishing, 2015) 181-182. See also OECD, *Measuring Capital: A Manual on Measurement of Capital Stocks, Consumption of Fixed Capital and Capital Services* (OECD Publishing, 2001) 91.

[71] For instance, Oracle BlueKai, – the leading big data management platform that aggregates data from interconnected smart devices, https://www.oracle.com/nz/marketingcloud/products/data-management-platform/.

raw material, which needs to be analysed prior its use as an input into production of Internet advertising services.

Web content placed by Internet users on the web pages of open web platforms improves these web platforms and, therefore, makes them more attractive to other Internet users. Usually this web content can be placed only on central web platforms designed for display-related ads (eg, YouTube).

Another resource provided by Internet users is web interaction *with* or *on* a web platform. Interaction *with* a web platform can be illustrated with the example of Google's web search platform. This web platform is designed for the interaction of Internet users with the web search platform only. Every time Internet users make search queries the users add value to Google itself because their searches improve the quality of search services provided by Google and, consequentially, the quality of the entire operation of Google's global multisided platform for Internet advertising. The firm uses search queries as votes in the ranking process in its web search platform. Websites that have been searched more frequently will take a higher position on the organic list of a search engine results page (SERP) generated by Google's web search platform in response to a search query from an Internet user.[72]

Also, the larger the number of search queries, the more precise the search results, in general, will be. The precision of search engines affects the popularity of the web platform among Internet users and, therefore, may strengthen the network effect on the side of the multisided platform where Google provides free search services. The strengthening of this effect enhances the network effect on the other side of the same platform where Google provides Internet advertising services. In other words, the popularity of the web search platform among Internet users, as well as the popularity of particular websites, enhances the competition among advertisers for ad slots available on the web search platform and other websites for the placement of search-related ads. While ad slots are usually sold through an ad price auction, the amount of revenue earned by Google from search-related ads depends directly on the popularity of its web search platform among Internet users and advertisers.

Interaction *on* a web platform assumes an exchange of information or web content between the users of the same web platform. Usually this type of interaction is triggered by the placement of web content on a web platform. For instance, when an Internet user uploads a video onto YouTube, this user provides Google with a resource in the form of web content. Other Internet users may leave comments on the YouTube web page about this video. In this case, Internet users are providing Google with a further resource in the form of interaction on its web platform.

As explained below, the levels of demand of groups of customers on different sides of a multisided market are interdependent.[73] This effect is known as cross-sided demand.

---

[72] When the Google web search platform receives a search query, the search algorithm checks the index for all web pages associated with the search query, ranks the results and creates a 'search engine results page' (SERP). A SERP usually includes 'organic' and 'paid' lists. The organic list is a result produced by a ranking algorithm of the web search platform in response to a search query. The paid list consists of search-related ads relevant to the key words used in a particular search query. See Vanessa Fox, *Marketing in the Age of Google: Your Online Strategy Is Your Business Strategy* (John Wiley & Sons, 2010) 114-116, 120-121.

[73] See section 3.3.2 (iii) of this article.

The firm needs customers on at least one side of its multisided market to interact on or with the firm's web platform. This demand, together with the cross-demand between different groups of customers of a platform firm, keeps all participants in the value-generating cycle together.

3.3.2 The internal perspective of the value creation process: utilisation of synergies

(i) Synergies

The internal perspective on the value creation process builds on the resource-based view of a firm[74] and the dynamic capabilities theory,[75] which were discussed in section 2.1 of this article. From this perspective, the value creation process is the product of the ability of a firm to generate additional value by using internal synergies and synergies that involve third parties.

Internal synergies occur because a firm is a network of resources. The joining of these resources together within a firm can create the value for the firm. Some firms can also access an external network of resources and generate additional value by bringing together these resources with the firm's own resources. In a platform firm, this occurs when the firm lets its customers access the firm's web platform and facilitates interactions on or with its platform. In this case, synergies arise from individual interactions of customers on or with the firm's web platform.

Synergies from individual interactions of customers on or with the firm's web platform result from a combination of a technical factor (ie, interoperability) and a social factor (ie, willingness of customers to interact on or with a web platform). A platform firm and its customers need devices and software that allows these devices 'to connect with each other and carry out their functions'.[76] Therefore, a platform firm and its customers share responsibility for interoperability, which is a technical side of web interaction. The social side of web interaction sits with customers. On the other hand, this interaction is triggered by willingness of a customer to interact on or with the firm's web platform.

Synergies from the individual interactions of customers on or with a web platform of a platform firm directly involve both the firm and its customers. In this sense, a firm does not merely access a network of external resources but provides a place (ie, web platform) where these resources can be created.

As discussed above, interactions on or with a web platform are inputs in the value creation process of the platform firm. These interactions give the firm personal data about people, and produce web content and improvements in the operation of an algorithm that the firm uses in its search web platform. The platform firm combines this data, web content and web platform improvements with its own resources. For instance, the firm may analyse personal data, and on the basis of this analysis produce personalised advertisements. These are advertisements which are displayed to individual Internet users who meet certain targeting criteria defined by an advertiser.

---

[74] Penrose, above n 31.
[75] Teece, Pisano and Shuen, above n 32.
[76] See 'interoperability' in Darrel Ince (ed), *Dictionary of the Internet* (Oxford University Press, 3rd ed, 2003).

(ii) Economies of scale and scope

Synergies can create economies. Platform firms utilise economies of scale and scope on both the supply and demand sides of an economic activity. This provides platform firms competitive advantages of two types: cost advantages and revenue advantages.[77] An important consequence of this cost structure is that 'if the biggest firm has the most significant cost advantages firms will compete to be biggest'.[78]

On the supply side, economies of scale and scope in both production and distribution processes are essential to value creation within a platform firm. The presence of economies of scale means that production at a larger scale can be achieved at a lower per unit cost.[79] A group of firms, or entities that make up a firm, can achieve economies of scale jointly by sharing certain fixed costs. Economies of scale may also arise as a result of the specialisation of tasks performed by individual employees of a firm.

Platform firms, and most information- and technology-related businesses, have high fixed costs and low marginal costs.[80] The costs of the invention of a new product or technology can be high. But these costs are often shared with governments, including when governments subsidise research and development directly or through tax instruments.[81] The marginal cost of supplying services to a large number of customers may be low due to non-rivalry in the consumption of information. The same resources can be used an unlimited number of times without substantial costs. Production of many digital services can be automated. Once developed, the algorithm that collects and disseminates the information is operationalised, and digital services can be supplied automatically without – or with limited – human participation.

The size of an economy may limit economies of scale available to a firm. A firm may not be able to achieve maximum economies of scale because of the limited number of consumers in the economy. One of the benefits of international trade and economic globalisation is that firms and consumers may benefit from greater economies of scale. Multinational platform firms, such as Google, clearly benefit from their global reach.

Economies of scope arise where a firm produces a group of products or performs related economic activities and the production costs of this group of products or costs of related activities is less than the sum of producing individual products or conducting unrelated activities.[82] Economies of scope are perhaps most visible in the ever-expanding range of products available through Amazon.

---

[77] Varian, above n 1, 34.
[78] Ibid 25-26.
[79] Steven M Suranovic, 'International Trade Theory and Policy, ch 80: Gains from Trade with Economies of Scale – A Simple Explanation' (2007), http://internationalecon.com/Trade/Tch80/T80-3.php (accessed 22 January 2020). See also 'economies of scale' in Black, Hashimzade and Myles, above n 59; Charles E McLure, 'Defining a Unitary Business: An Economist's View' (NBER Working Paper No. 1125, May 1983) 14-19; OECD, *Data-Driven Innovation*, above n 70, 184.
[80] Varian, above n 77, 25. The marginal cost is the extra cost (or the increase in total cost) required to produce one extra unit of output (or the reduction in total cost from producing one unit less). See 'cost, marginal' in Paul A Samuelson and William D Nordhaus, *Economics* (McGraw-Hill-Education-Europe, 19th ed, 2011) Glossary of Terms, 652.
[81] Marianna Mazzucato, *Entrepreneurial State: Debunking Public vs. Private Sector Myths* (Anthem Press, 2013).
[82] See 'economies of scope' in Black, Hashimzade and Myles, above n 59. See also McLure, above n 79, 14-19; OECD, *Data-Driven Innovation*, above n 70, 184.

(iii) Network effects

In addition to synergies from the individual interactions of customers on or with a web platform of a platform firm,[83] there are also synergies such as network effects. Network effects lead to demand-side economies of scale.[84] The larger the network of customers the more customers that will be attracted to the network, because customers wish to connect to many other customers.[85] In such a case, economists say that the product exhibits network effects.[86] The large number of customers also produces supply-side economies of scale where there are fixed costs involved in serving a group of customers.

In more technical terms, the network effect is based on the interdependent demand of customers.[87] The more customers a firm has, the more it may charge for its products and the more products this firm can sell. When a firm is a platform firm, in addition to the interdependent demand within a group of customers on one side of its multisided market (eg, between users of YouTube platform), there is also a cross-sided interdependent demand. This means that the number of customers on one side of the market is interdependent with the demand on the other side of the market (eg, between users of the YouTube platform and advertisers). The more people that use the YouTube platform, the more Google may charge advertisers.

The cross-sided interdependent demand thus gives rise to an indirect network effect. The value of a multisided market to one group of customers depends upon how many customers of another group participate[88] and want to interact with them.[89] In platform firms an indirect network effect is, therefore, linked to interactions of the firm's customers on or with the web platform of the firm. Sometimes there are more than two groups. In the case of Google, the firm's customers involved in interactions are Internet users, advertisers, third party web publishers, developers of web apps.

The effective functioning of a multisided market of a platform firm depends on this firm's ability to engage customers of each group in interaction with customers of the other group, to match the cross-demands of customers of different groups, and to maintain a sufficient number of customers in each group who are valuable to customers of the other group.

The effective functioning of a platform firm also depends upon the feedback effects. The concept of feedback has a variety of meanings. In the context of the current discussion, feedback is an output produced by the system and used by the system again as an input. In other words, the system feeds itself back. For instance, when interesting web content is placed on a web display platform,[90] the more engaged in web interaction

---

[83] See section 3.3.2(i) of this article.
[84] Varian, above n 77, 33.
[85] See explanation of networks effect in Katz and Shapiro, above n 23, 424. See also OECD, *The Digital Economy 2012*, Report of Hearings on the Digital Economy (OECD Publishing, 2013) 8.
[86] Carl Shapiro and Hal R Varian, *Information Rules: A Strategic Guide to the Network Economy* (Harvard Business School Press, 1999) 13.
[87] Jeffrey Rohlfs, 'A Theory of Interdependent Demand for a Communications Service' (1974) 5(1) *The Bell Journal of Economics and Management Science* 16, 16-37.
[88] Evans and Schmalensee, above n 11, 25.
[89] Ibid 30.
[90] Web display platforms are designed for the publishing of display-related Internet ads. Users of these web platforms can interact not only *with* the platform, but also with each other *on* a web platform. Users can provide feedback related to the web content placed on the platform by other users of the web display

on the web platform the existing users become, the greater number of new users the platform firm can attract. Web display platforms are designed for the publishing of display-related Internet ads. Users of these web platforms can interact not only with the platform, but also with each other on a web platform. Users can provide feedback related to the web content placed on the platform by other users of the web display platform or otherwise be involved in web communication with each other (eg, web communication may include web comments, clicks on hyperlinks or the 'Like' button, re-posts of web content or links related to this content, and so forth). Therefore, interaction on the web display platform creates the 'self-reinforcing virtuous feedback loop' that keeps old users engaged while also attracting new users.[91]

(iv) Synergy rents

Taxation of business income relies on the accounting definition of profit, which is 'total revenue minus costs properly chargeable against the goods sold'.[92] From an economic perspective, accounting profit can comprise normal profit and economic rent (also known as 'supernormal profit', 'abnormal profit', 'excess profit' or 'pure profit').[93] Normal profit is a return (or equivalent of a return) to capital for capital owner plus a compensation for the risk.[94] Normal profit is, therefore, an amount that covers the opportunity costs of entrepreneurial effort of a capital owner. Economic rent is an amount that exceeds the opportunity costs.[95] It is in a sense 'unearned income'.[96]

Economic rents take a variety of forms. For instance, so-called Ricardian rents are returns in excess of fair market returns due to the ownership of superior input factors that are in a permanent state of shortage, such as highly productive agricultural land.[97] Schumpeterian rents arise from innovations.[98] Another type of economic rent accrues to the owner of unique intangible assets if this owner is a single firm or small set of firms (often called rents to quasi-fixed assets).[99] There are also quasi-rents, which are rents attributable to past investments, or to factors of production in temporarily fixed supply.[100] In addition to all these types of rents, a firm may also generate network rents and synergy rents. Network rents arise from network effects.[101] Synergy rents result

platform or otherwise be involved in web communication with each other (eg, web communication may include web comments, clicks on hyperlinks or the 'Like' button, re-posts of web content or links related to this content, and so forth).

[91] Alag Satnam, 'Understanding Collective Intelligence' in Jörn Altmann, Ulrike Baumöl and Bernd J Krämer (eds), *Advances in Collective Intelligence 2011* (Springer, 2012) 5, 7.

[92] See 'profits' and 'income statement' in Samuelson and Nordhaus, above n 80, 664 and 671.

[93] See 'supernormal profit', 'excess profit', and 'economic rent' in Black, Hashimzade and Myles, above n 59.

[94] See ibid, 'normal profit'.

[95] See ibid, 'supernormal profit' and 'excess profit'.

[96] See 'Economic Rent', Henry George Foundation, https://www.henrygeorgefoundation.org/the-science-of-economics/economic-rent.html.

[97] David Ricardo, *On the Principles of Political Economy and Taxation* (John Murray, 1817) 49-76. See also 'rent, economic' in Samuelson and Nordhaus, above n 80, 673.

[98] Frederic Sautet, 'Schumpeterian Rents' in *The Palgrave Encyclopedia of Strategic Management* (Palgrave Macmillan, 2014) 1–3.

[99] Margaret Peteraf, 'The Cornerstones of Competitive Advantage' (1993) 14(3) *Strategic Management Journal* 179.

[100] IMF, Fiscal Affairs Department, 'Fiscal Regimes for Extractive Industries: Design and Implementation' (IMF, 15 August 2012) 5.

[101] France Stratégie, *Taxation and the Digital Economy: A Survey of Theoretical Models, Final Report* (26 February 2015) 16,

from economies. The firm effectively generates additional value that would not be generated if these economies were not present.

Synergy rents include rents to capabilities,[102] sometimes called group synergy rents,[103] which arise because of 'combined purchasing power or economies of scale, combined and integrated computer and communication systems, integrated management, elimination of duplication, increased borrowing capacity, and numerous similar factors'.[104] Group synergy rents are the product of supply-side economies of scale and/or scope.

Synergy rents also include what may be called customer synergy rents. Customer synergy rents are those that result from customers' interactions on or with a firm's web platform and network effects. In the case of platform firms, however, network effects generate not so-called 'network rents' but synergy rents – more precisely customer synergy rents. These rents arise not only because of the connection of customers with a single network, but also because of opportunity a platform firm provides to one group of its customers (eg, Internet advertisers) to reach another group of customers of the firm (ie, Internet users) through its own web platform.

A combination of resources of the firm with interactions of this firm's customers or with network effects creates a synergy benefit. It is because an economic value of combined resources exceeds a sum of values of each resource provided by the firm and its customers individually or collectively as a network. For the firm the benefit from a combination of resources of customers with the firm's own resources is a value added by the synergy rather than a value added directly by a customer.

Web interactions cost interacting customers their time. The platform firm often does not fully compensate its customers for the cost of their interactions on the firm's web platform. This firm can provide a non-monetary compensation such as free services to some groups of its customers (eg, users); however, the cost of this compensation is often shifted to another group of the firm's customers (eg, advertisers). Even if the firm bore the entire cost of web interactions, this firm would be able to generate a synergy rent from customers interactions if value added by synergy exceeded the cost of resources that have generated this synergy.

The platform firm does not share with its customers its profits from the value added by customer synergy rents. These profits are likely accumulated at a level of a parent company of the platform firm.[105] However, from an economic perspective these profits cannot be associated with any of the legal entities of the multinational platform firm. If, as it is generally agreed, business profits of multinationals should be taxed where value is created, then some profits of a multinational platform firm from customer synergy rents should accrue to each state where this firm has customers.[106]

---

https://ec.europa.eu/futurium/en/system/files/ged/ficalite_du_numerique_9_mars_13_h.pdf.

[102] Tallman, above n 34, 381–382.

[103] Wills-Johnson, above n 33, 214. See also a description of group synergies of a multinational firm result from in OECD, *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations* (OECD Publishing, 2017) 89-90, para 1.157.

[104] OECD, *Transfer Pricing Guidelines*, above n 103, 89-90, para 1.157.

[105] See section 5.1.4 of this article.

[106] See section 1 of this article.

(v) Multinational groups

From an international corporate tax perspective, it is important to consider both supply-side and demand-side economies of a multinational platform firm. First, these economies affect the size of a value pie of the firm. Second, these economies can be used to establish a nexus between the business profits of a multinational platform firm and the source state, or in the development of a new instrument aimed at capturing some of the additional value generated by economies. It is also important to consider the participation of customers in a value creation process of a firm that happens through web interaction. The notion of a synergy rent helps to clarify the issues.

Supply-side economies of scale and scope generate value for a multinational platform firm. The additional value generated as a result of these economies may not have been able to be produced by a single entity of the firm in question. Each of the entities making up the firm will contribute more or less to the overall economies of the firm. The economies result from synergies between the entities of the group. Accordingly, the profits related to this additional value (the group synergy rent) are produced by a group of the firm's entities.

Similarly, in the case of the demand-side economies of scale, the additional value generated by network effects, in principle, cannot be seen as produced by a single entity of the firm or solely by the firm. The same is true in relation to customer's interactions on or with a web platform of a platform firm. Value from network effects and web interaction is co-produced by the firm and its customers. Therefore, the profits related to this additional value (the customer synergy rent) are also co-produced by the firm and its customers.

Multinational firms operate in a more or less globally integrated economic environment. When firms are both multinational and platform firms, the returns from both the supply-side economies of scale and scope and the demand-side economies of scale are enhanced because of the access to greater economies of scale on supply and demand sides. Of course, these opportunities for scaling depend upon the type of service the firm provides, because language, culture and other things may prevent there being a truly global market for most digital services.

4. THE INTERNATIONAL ALLOCATION OF BUSINESS PROFITS

This section provides a brief overview of the international allocation of business profits of multinational platform firms to set the stage for the analysis of the tax challenges created by multinational platform firms. From an international perspective, the current international corporate tax system performs two functions. First, it attributes the income (or loss) from the cross-border business activities of a multinational firm and related costs to the permanent establishments. Second, it allocates income (or loss) of a multinational firm and related costs among legal entities of the firm in some circumstances. The 'attribution' is the result of the application of source rules, while the 'allocation' is based on the transfer pricing rules of individual states (or more precisely nation states and dependent territories with their own tax jurisdiction).

Source rules included in tax statutes and tax treaties establish a nexus between a source state and the income of a non-resident. For that reason, source rules often are referred as 'nexus rules'. These rules contain a definition of a taxable presence and a definition of income that is considered to be sourced in the jurisdiction. A taxable presence is

usually defined using the model permanent establishment (PE) concept contained in Model Tax Treaties, which underpins the international corporate tax system. This model permanent establishment concept has traditionally linked business profits with a source state on the basis of a physical presence standard.[107] The physical presence standard requires that the factors connecting business profits of an economic actor with a state (or, in the case of a dependent agent,[108] its agent) should be physically located within that state's territory.[109] States have used the model permanent establishment concept to develop source rules in their statutes and tax treaties. The definition of income sourced in a jurisdiction needs to cover many types of income and usually includes profits of non-residents from business 'carried on' in the state's territory.[110]

Transfer pricing rules allocate income (or losses) and associated costs to the legal entities making up a multinational firm when these entities are involved in commercial or financial transactions with each other (ie, controlled transactions). The transfer pricing rules apply to ensure these transactions are deemed to occur at prices that would prevail if the parties to the transactions were dealing with each other at arm's length.[111] The arm's length principle requires a comparison of terms and conditions of transactions between entities under common control with similar transactions between independent enterprises and the adjustment of related party prices that tax administrations consider not to be made at arm's length for the purposes of the assessment of income tax.[112]

The arm's length price of each controlled transaction is determined under a particular transfer pricing method or a combination of transfer pricing methods. The choice of these methods is broadly based on the functional analysis which ensures the allocation of income (or loss) and associated costs to the parties of a controlled transaction in accordance with 'functions performed, assets used and risks assumed'.[113]

The transfer pricing rules of individual states are harmonised to some extent under the OECD Transfer Pricing Guidelines[114] and the United Nations Practical Manual on Transfer Pricing for Developing Countries.[115] These guidelines are consistent with

---

[107] See OECD, *Model Tax Convention on Income and on Capital* (OECD Publishing, 2017) art 5; UN, *Model Double Taxation Convention between Developed and Developing Countries* (UN Publishing, 2017) art 5.
[108] OECD, *Model Tax Convention on Income and on Capital*, above n 107, art 5(5) and (6); UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 5(5) and (6).
[109] OECD, *Model Tax Convention on Income and on Capital*, above n 107, art 5(1) and (2); UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 5(1) and (2).
[110] OECD, *Model Tax Convention on Income and on Capital*, above n 107, art 7(1); UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 7(1).
[111] 'In the area of international taxation, transfer pricing under the 'arm's length'-standard serves the role of allocating profits to the different units of a multinational enterprise and of allocating taxing rights to the involved jurisdictions': Wolfgang Schön, 'Transfer Pricing – Business Incentives, International Taxation and Corporate Law' in Wolfgang Schön and Kai A Konrad (eds), *Fundamentals of International Transfer Pricing in Law and Economics* (Springer, 2012) 47. See also OECD, *Transfer Pricing Guidelines*, above n 103.
[112] See, for instance, ibid 33-34, paras 1.1-1.5.
[113] See 'functional analysis' in OECD, *Transfer Pricing Guidelines*, above n 103, Glossary, 26. For a range of functions, assets and risks see ibid 51-74, paras 1.51-1.109.
[114] OECD, *Transfer Pricing Guidelines*, above n 103.
[115] UN, *Practical Manual on Transfer Pricing for Developing Countries* (UN Publishing, 2017).

Porter's view of the value creation process,[116] and do not take account of the more modern forms of business organisation described in section 2 above.

The permanent establishment concept and transfer pricing rules apply in the framework of the so-called separate entity approach (or the separate accounting method).[117] The separate entity approach, which is embraced in many soft law instruments[118] and the national transfer pricing and source rules of many states, generally prevents the treatment of a multinational firm as a single taxpayer. The states where legal entities or permanent establishments of a multinational firm are located apply their own laws to these entities and treat them for tax purposes as if they are separate and independent enterprises.[119]

That said, the transfer pricing rules give some recognition to the fact that a multinational firm may generate not only the normal profits but also group synergy rents. Accordingly, the OECD's Transfer Pricing Guidelines provide guidance for the allocation of the group synergy rents (so-called 'synergistic benefits') 'from deliberate concrete group actions'.[120] The Guidelines recommend using a functional and comparability analysis to define the nature and source of the synergistic benefit, and a connection between this benefit and deliberate concrete group actions.[121] The amount of the synergy benefit should be determined and divided among entities of the firm in proportion to their contributions to this benefit.[122]

5. THE TAX CHALLENGES OF MULTINATIONAL PLATFORM FIRMS

Many of the tax challenges of multinational platform firms (and many multinational non-platform firms) are rooted in the fundamental structures of the international corporate tax system that allocates the right to tax business profits among states. This section uses the example of Google to illustrate the difficulties in the allocation of the business profits of a multinational platform firm to a state where value was created. These challenges are divided into two groups: 'problems of price' (section 5.1) and 'problems of place' (section 5.2). The article uses the terms 'the price' and 'the place' for ease of discussion.

5.1 Problems of price

The problems of price are related to the recognition and measurement in monetary terms of the costs of resources and the size of economies that platform firms use to generate business profits. These problems can be divided into four categories, which relate to intangibles; multisided market business structures; distribution centres; and customer participation in a value creation process.

---

[116] Porter, *Competitive Strategy*, above n 24.
[117] OECD, *Model Tax Convention on Income and on Capital*, above n 107, arts 9, 7, 3(1)(c), and 3(1)(d).
[118] See, for instance, OECD, *Model Tax Convention on Income and on Capital*, above n 107, arts 9(1)(a) and 9(1)(b).
[119] Ibid art 9; UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 9. See also Reuven S Avi-Yonah, 'National Regulation of Multinational Enterprises: An Essay on Comity, Extraterritoriality, and Harmonization' (2003) 42(1) *Columbia Journal of Transnational Law* 5, 8.
[120] OECD, *Transfer Pricing Guidelines*, above n 103, 90, para 1.158.
[121] Ibid.
[122] Ibid 91, paras 1.161-1.162.

5.1.1 Intangibles

Platform firms create value through the use of various intangibles. The allocation of the returns, costs and burdens related to intangibles is accomplished by compensating the entities of a multinational firm for functions each performed, assets each used, and risks each assumed in the development, enhancement, maintenance, protection and exploitation of intangibles according to the general principles of transfer pricing.[123]

For transfer pricing purposes, an 'intangible' means:

> something which is not a physical asset or a financial asset, which is capable of being owned or controlled for use in commercial activities, and whose use or transfer would be compensated had it occurred in a transaction between independent parties in comparable circumstances.[124]

Intangibles are often unique. They may also be created with the participation of more than one of the entities of a firm. These two facts significantly contribute to the difficulty in the allocation of income (or losses) from intangibles and the costs related to this income among the entities of a multinational firm. The transactional profit split method of transfer pricing has been designed to deal with this type of situation.[125] This method, in particular, applies when each entity participating in a controlled transaction makes unique and valuable contributions,[126] or the business operations of a multinational firm are highly integrated,[127] or the entities of a multinational firm share the assumption of economically significant risks or have separately assumed closely related risks.[128] All of these factors are present in the case of multinational platform firms.

On 21 June 2018 the OECD issued its Revised Guidance on the Application of the Transactional Profit Split Method.[129] However, the new guidance contains no examples directly related to multinational platform firms and their use of intangible assets, despite (or perhaps because of) the prominence of tax issues associated with these firms.[130]

Many of the intangibles that platform firms, including Google, use to create value are 'hard to value' intangibles:

> The term hard-to-value intangibles (HTVI) covers intangibles or rights in intangibles for which, at the time of their transfer between associated enterprises, (i) no reliable comparables exist, and (ii) at the time the

---

[123] OECD, *Transfer Pricing Guidelines*, above n 103, 258, para 6.32. See also Celeste Black, 'Australia' in Guglielmo Maisto (ed), *Taxation of Intellectual Property under Domestic Law, EU Law and Tax Treaties* (IBFD Publications, 2018) 185.
[124] OECD, *Transfer Pricing Guidelines*, above n 103, 249, para 6.6.
[125] The transactional profit split method identifies the relevant profits (losses) to be split among the associated enterprises from a controlled transaction (or aggregated controlled transactions) and then splits those profits (or losses) among the associated enterprises in a way that approximates the division of profits that would have been agreed at arm's length. The split is done by considering the relative contributions of each party and applying profit splitting factors. See ibid, Glossary. See also OECD, *Revised Guidance on the Application of the Transactional Profit Split Method – BEPS Action 10* (OECD Publishing, 2018) 12 and 19, paras 2.115 and 2.149-2.150.
[126] Ibid 14-15, paras 2.130-2.132.
[127] Ibid 15-16, paras 2.133-2.138.
[128] Ibid 17, paras 2.139-2.142.
[129] Ibid.
[130] Ibid 29-44, Annex II to Chapter II.

> transactions was entered into, the projections of future cash flows of income expected to be derived from the transferred intangible, or the assumptions used in valuing the intangible are highly uncertain, making it difficult to predict the level of ultimate success of the intangible at the time of the transfer.[131]

Hard to value intangibles have been viewed as a common tool for cross-border profit shifting. The OECD sought to address this type of profit-shifting in the framework of the BEPS project[132] by adding section D.4 ('Hard-to-Value Intangibles (HTVI)') to chapter VI of its Transfer Pricing Guidelines.[133] The new section:

> protects tax administrations from the negative effects of information asymmetry by ensuring that tax administrations can consider *ex post* outcomes as presumptive evidence about the appropriateness of the *ex-ante* pricing arrangements.[134]

At the same time, the HTVI guidelines contain some exceptions from the presumption and would allow taxpayers to rebut the presumption created by evidence of ex post outcomes. One of these exemptions is where there is an 'advance pricing arrangement in effect for the period in question between the countries of the transferee and the transferor'.[135] Google entered into an advance pricing arrangement (APA) with the United States in 2006.[136] Under this arrangement, the profits of Google Inc (Alphabet Inc since October 2015) earned from the use of intellectual property rights transferred to Google Ireland Holdings (a company incorporated in Ireland but a tax resident in Bermuda) are not subject to corporate income taxation in the United States.[137] The inter-company licensing transaction between Google Inc and Google Ireland Holdings is at the heart of the global tax planning scheme of Google. Therefore, while the APA between Google and the tax authorities of the United States remains in force, the HTVI rules of the United States would not apply to Google.[138]

Whether or not other states can use their own HTVI rules against Google will depend on the tax policy of these states and quite possibly the cooperative audit efforts with other jurisdictions. Transfer pricing analysis requires a review of the functions performed, assets used, and risks assumed by local subsidiaries of Google in evaluating the development, enhancement, maintenance, protection and exploitation of intangibles.[139] The tax authorities of the states wishing to apply the HTVI rules would need to obtain sufficient information to understand Google's global business and the

---

[131] OECD, *Transfer Pricing Guidelines*, above n 103, para 6.189.
[132] OECD, *Actions 8-10 – 2015 Final Reports: Aligning Transfer Pricing Outcomes with Value Creation*, above n 4.
[133] OECD, *Transfer Pricing Guidelines*, above n 103.
[134] OECD, *Guidance for Tax Administrations on the Application of the Approach to Hard-to-Value Intangibles – BEPS Action 8* (OECD Publishing, 2018) 9.
[135] OECD, *Transfer Pricing Guidelines*, above n 103, para 6.193(ii).
[136] Jesse Drucker, 'IRS Auditing How Google Shifted Profits Offshore to Avoid Taxes', *The Bloomberg* (13 October 2011), http://www.bloomberg.com/news/articles/2011-10-13/irs-auditing-how-google-shifted-profits-off shore-to-avoid-taxes (accessed 31 January 2020). See also Jesse Drucker, 'Google for Audit on Avoidance of US Federal Taxes', *The Irish Times* (14 October 2011), https://www.irishtimes.com/business/technology/google-for-audit-on-avoidance-of-us-federal-taxes-1.615756 (accessed 31 January 2020); OECD, *Addressing Base Erosion and Profit Shifting* (OECD Publishing, 2013) 74.
[137] Ibid.
[138] Analysis of transfer pricing legislation of the United States is beyond the topic of this article.
[139] OECD, *Transfer Pricing Guidelines*, above n 103, 258, para 6.32.

manner in which intangibles are used by the Google to add or create value across the entire supply chain of the firm.[140] The business model of Google is very sophisticated, but it has now been closely examined by the OECD,[141] tax authorities,[142] and parliamentary committees of many states.[143] The information exchange, reporting standards and transparency fostered by the OECD through a number of multilateral conventions[144] and the International Compliance Assurance Programme (ICAP)[145] can help tax authorities acquire and analyse information about local business activities of Google.

The HTVI rules of individual states, if uncoordinated, may create a risk of juridical double taxation for multinational platform firms (and multinationals in general). To prevent this risk, multinational platform firms now have a stronger incentive to enter into a multilateral advance pricing arrangement with all states where the firm's digital platform operates.

5.1.2 Multisided markets

The current international corporate tax system has no rules specifically addressing issues of value creation within a multinational platform firm. This system was, of course, designed when digital platform businesses did not exist, let alone operate on a worldwide scale.

Consider, for instance, that when an Internet user makes a search query through Google web search platform, it triggers production and distribution of both free search services to this user and Internet advertising services to Google's customers of Internet advertising services. Both services are produced and distributed at the same time through the 'search engine results page' (SERP) page. The technical production and

---

[140] Ibid 247, para 6.3.

[141] See, for instance, OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, Annex B, 171-175, paras 8-15; OECD,'*Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, ch 2.

[142] See, for instance, the UK, House of Commons Committee of Public Accounts, *Tax Avoidance – Google*, Ninth Report of Session 2013-14 (10 June 2013).

[143] See, for instance, Michel Rose and Chine Labbe, 'Investigators Raid Google Paris HQ in Tax Evasion Inquiry' *Reuters* (24 May 2016), https://www.reuters.com/article/us-google-france-investigation/investigators-raid-google-paris-hq-in-tax-evasion-inquiry-idUSKCN0YF1CV (accessed 22 January 2020).

[144] In particular: OECD and Council of Europe, *Multilateral Convention on Mutual Administrative Assistance in Tax Matters of 25 January 1988 as Amended by the 2010 Protocol*, concluded on 27 May 2010 (entered into force 1 June 2011), which is a key multilateral instrument for international assistance in tax matters, the exchange of tax information between states, and the enforcement of administrative foreign tax claims; *Multilateral Competent Authority Agreement on the Exchange of Financial Account Information*, approved June 2014 (CRS MCAA), which provides a standardised mechanism to facilitate the automatic exchange of information in accordance with the common reporting standard (CRS); *Multilateral Competent Authority Agreement on the Exchange of Country-by-Country Reports*, signed 27 January 2016 (CbC MCAA), which specifies the details of the exchange of the information between the home and host countries of some large multinationals.

[145] The ICAP is a voluntary risk assessment and assurance program launched in Washington, DC in January 2018. The program brought together eight tax administrations, from Australia, Canada, Italy, Japan, the Netherlands, Spain, the United Kingdom and the United States, with a number of MNEs headquartered in these jurisdictions. The ICAP aims to facilitate open and co-operative multilateral engagements between MNEs and tax administrations in jurisdictions where these MNEs conduct their activities. For more detail see OECD, 'International Compliance Assurance Programme (ICAP)', https://www.oecd.org/tax/forum-on-tax-administration/international-compliance-assurance-programme.htm.

distribution of search and advertising services supplied electronically[146] is done in a single process.

With the lack of specific rules for platform firms, for tax purposes multinational platform firms can, and in fact must because of the separate entity approach, present their multisided markets as involving a series of independent single-sided businesses. In particular, the lack of rules addressing the special features of platform firms allows Google to legitimately separate the subsidy side of its multisided market from the money side. The firm allocates almost all income from profit-generating activities earned outside its home country (the United States) to the firm's subsidiaries in Ireland (Google Ireland Ltd) and Singapore (Google Asia Pte Ltd).[147] The profits derived from the money side are allocated to a few entities within the firm, while losses generated on the subsidy side are left with other entities of the firm and compensated under the cost-plus method of transfer pricing.[148] This compensation is usually provided for sales and marketing services.

Google generates significant income from Internet advertising but receives no income from the many other digital services that the firm provides to its customers 'for free' as a part of the operation of its digital platform for Internet advertising. The costs related to the production of these 'free' digital services are usually not specified in the firm's annual reports nor are they attributed to the 'research and development', 'sales and marketing' or 'platform maintenance' activities of the firm's entities.[149] Google may, and likely does, shift these costs to its money-side customers (customers of Internet advertising services) by increasing of prices of its money-side services. However, for accounting purposes the costs incurred by the firm are considered as the firm's own costs even if they were later shifted to third parties.

5.1.3 Distribution centres

The current international corporate tax system fails to dis-incentivise tax-driven creation of distribution centres. As a result, income (or losses) and associated costs are divided unevenly between entities of a multinational platform firm that perform the same technical functions.

A data centre usually coordinates the entire technological process of supply of digital services to customers in a particular region or country. Therefore, digital services supplied to customers through or under the control of this data centre could be seen as originating from a state where the data centre is located. If a firm has multiple data centres it would be logical to assume that under the functional analysis of transfer

---

[146] The supply of services electronically is different from the delivery of the results of services by electronic means (eg, when a document such as an engineering plan is digitised and sent over the Internet). The difference in production process is important for identification of the place of origin of a service for trade and tax purposes: see, for instance, Trans-Pacific Partnership Agreement (draft, Atlanta, 5 October 2015) art 14.2.

[147] For an overview of the structure of Google's business in New Zealand, see Victoria Plekhanova, 'Taxation of Global Digital Matchmakers: A Tentative Step Forward?' (2018) 24(1) *New Zealand Business Law Quarterly* 69, 71-72.

[148] The method contains the cost and mark-up elements. The mark-up is measured by reference to margins computed after all costs incurred by a supplier in a transaction. See OECD, *Transfer Pricing Guidelines*, above n 103, 26 and 111-115.
For an example of economic presence of Google in New Zealand, see Plekhanova, above n 147, 79.

[149] Ibid.

pricing the entities that operate these data centres should be seen as 'suppliers' of digital services of the firm.

However, Google legitimately supplies Internet advertising in Europe, the Middle East, Africa, Asia and the Pacific through its two foreign subsidiaries Google Ireland Ltd and Google Asia Pte Ltd. Google Ireland Ltd operates the firm's data centre in Ireland; Google Asia Pte Ltd operates the firm's data centre in Singapore. Ireland and Singapore are not only low tax jurisdictions but also have some specific rules in their national laws which allowed Google to reduce the total size of its overall corporate income tax burden.[150]

Google has other data centres outside the United States, including ones in the Netherlands, Finland and Belgium (the EMEA region) and in Taiwan (the APAC region).[151] However, none of these data centres acts as a financial and distribution centre for Google.[152]

The fact that Google has many subsidiaries that operate data centres but treats only two of these subsidiaries as suppliers of the firm's digital services outside the United States, and that both subsidiaries are located in low tax jurisdictions, suggests that the choice of distribution centres and their location are, to a great extent, tax-driven.

The example of Google demonstrates that the current international corporate tax system fails to ensure equal treatment of all of the subsidiaries of a multinational platform firm that perform similar technical functions. This is because this system relies on national transfer pricing rules that are applied on a state-by-state basis and premised on the separate entity approach.

5.1.4 Customers participation in a value creation process

The current international corporate tax system was designed with the view that only the entities of a firm, and the resources they have, are involved in the value creation process of the firm. However, the example of Google demonstrates that in platform firms significant resources come from customers. With the lack of rules related to the use of these resources by a platform firm, these resources are often treated by Google, for tax purposes, as having no value or adding no value, or both. All synergy benefits created with the use of these resources are seen as something that naturally 'belongs' to the firm.

---

[150] For instance, even after Ireland's amendment of its *Taxes Consolidation Act 1997* in 2014, the Irish subsidiary of Google Ireland Holdings can be treated as a Bermudian tax resident until 31 December 2020. As a result, Google was able to use the 'Double Irish' scheme to shift its profits from high tax jurisdictions to Bermuda. See Ireland, *Taxes Consolidation Act 1997* s 23A (as amended by *Finance Act 2014* No. 37 of 23 December 2014, s 43(1)). See also Jesse Drucker, 'Double Irish's Slow Death Leaves Google Executives Calm', *The Bloomberg* (15 October 2014), http://www.bloomberg.com/news/articles/2014-10-14/double-irish-s-slow-death-leaves-google-executives-calm (accessed 22 January 2020).
On 31 December 2019 a Google spokesman confirmed that it would scrap the licensing structure that Google used in the 'Double Irish' scheme. See Toby Sterling, 'Google to End "Double Irish, Dutch sandwich" Tax Scheme', *Reuters* (1 January 2020). https://www.reuters.com/article/us-google-taxes-netherlands/google-to-end-double-irish-dutch-sandwich-tax-scheme-idUSKBN1YZ10Z (accessed 31 January 2020).

[151] Google data centres, https://www.google.com/about/datacenters/locations/ (accessed 31 January 2020).

[152] Jeremy Kahn, 'Google's 'Dutch Sandwich' Shielded 16 Billion Euros from Tax', *The Bloomberg* (3 January 2018), https://www.bloomberg.com/news/articles/2018-01-02/google-s-dutch-sandwich-shielded-16-billion-euros-from-tax (accessed 22 January 2020).

Internet users do not charge Google for the use of their personal data, the provision of web content or web interaction, which improves and, in a sense, drives the operation of the firm's web platforms. Sometimes Google itself defines a price that the firm will pay for some resources obtained from Internet users. In particular, when videos uploaded onto the YouTube web platform that attract a significant number of viewers, Google considers these videos as valuable resources and pays for them. According to Google, the price paid for the resource obtained from its owner is a share of the advertising revenues earned from the web page where the resource (generally a video) was placed. Less popular videos, other web content and web interaction resources are not seen by Google as valuable for the purposes of revenue sharing and taxation. In most cases, Google bears no costs for the acquisition of these resources, or any cost is difficult to associate with a particular resource because the resource was acquired through exchanges within the multisided market. There are also significant supply-side economies of scale. The marginal costs of adding yet another YouTube video is therefore next to zero.

It is also difficult to evaluate resources provided by customers of a platform firm and to measure value added by these resources. First, the measurement is complicated because resources provided by the firm's customers often add value only when used in conjunction with other resources (eg, personal data may have no value until it is analysed or associated with an individual or considered with data from other individuals). The value added by each resource that was used in conjunction with other resources may not be possible to define. For instance, Google combines pieces of 'raw' personal data obtained from Internet users with 'new' data produced by Google itself as a result of consolidation and analysis of the raw data. The firm uses this integrated resource but not the personal data itself (which is only a part of this resource) for production of Internet advertising services. However, there is currently no methodology in accounting or taxation that would allow the identification of the value added by raw data or the value added by new data.

Second, some resources provided by the firm's customers add value to a final product indirectly, by making improvements to the process of production of this product. For instance, every search conducted on the Google search web platform improves the operation of the search algorithm of this platform. There is no methodology in accounting or taxation for the measurement of the value added in this case.

Finally, customers of Google not only provide resources to the firm but also contribute to demand-side economies. As explained in section 3.3.2, demand-side economies are the product of network effects. Again, there is no methodology in accounting or taxation for the measurement of both the value added by network effects and contributions the firm and its customers make to these effects.

The current international corporate tax system was intended to allocate the rights to tax business profits to a state where the economic activity that generates value is located. The lack of rules related to the use of resources provided by the customers of a platform firm makes it impossible, under the current international tax system, to allocate the profits of platform firms to states where the firm's customers make their contributions to the value creation process of the firm.

Apart from transactional profit split method, the separate entity approach embraced in the OECD's Transfer Pricing Guidelines provides no guidance as to how to allocate customer synergy rent. There is no suggestion in the OECD's Guidance on the

Transactional Profit Split Method[153] that the transactional profit split method can be used to split the profits related to customers' contributions to value created within a platform firm. Synergy rent is generated from inputs of the firm's customers and entities of a firm.[154] Customers are not entities of the firm and, therefore, are not participants in 'controlled transactions'. Consequently, the transfer pricing rules do apply to customers in any event. Moreover, it follows from the considerations discussed in section 3.3 that customers often contribute to value creation at the whole-of-firm level rather than at the level of a particular entity of the firm.

Without specific guidance in relation to the allocation of the customer synergy rent (and nexus rules that would attribute a portion of this rent to the customer jurisdiction) the entire amount of this rent is likely to remain at the level of a parent company of the firm and, therefore, is allocated to the state where the company is incorporated. In the case of Google, this is the United States.

The issue of customers' participation in a value creation process of a platform firm and its recognition for income tax purposes remains highly controversial. The debates revolve around participation of a particular type of customers, namely – 'Internet users' or 'users'.[155] As at March 2018 there was no consensus among states on whether, and the extent to which, user participation should be considered as contributing to a value creation of platform firms.[156] User participation is related to individual inputs of the customers of platform firms. There has been no discussion about the international allocation of customer synergy rents from network effects. Therefore, the issue of customer synergy rents and their allocation under the current international corporate tax system (as well as an appropriateness of this system for this purpose) remains a challenge.

The international allocation of customer synergy rent has not been explicitly addressed in the BEPS documentation. Nevertheless, this rent (or its portion) can be allocated under so-called 'pillar one' proposals discussed in the OECD's Public Consultation Document on the tax challenges of the digitalisation of the economy issued on 19 February 2019.[157] In essence, these proposals suggest changes be made to nexus rules and profit allocation rules. The changes to the nexus rules will provide a solution to the virtual presence problem to be discussed later in this article.[158] Changes to the profit allocation rules may result in the allocation of some customer synergy rent to the

---

[153] OECD, *Revised Guidance on the Application of the Transactional Profit Split Method*, above n 125.
[154] See section 3.3 of this article.
[155] An argument about user participation in the value creation process was first made by France in 2013. See France, Ministry of Finance, *Rapport sur la fiscalité du secteur numérique* (18 January 2013) (the 'Colin and Collin Report'), http://www.redressement-productif.gouv.fr/files/rapport-fiscalite-du-numerique_ 2013.pdf. See also France Stratégie, *Taxation and the Digital Economy: A Survey of Theoretical Models*, above n 101. This argument was further elaborated by the United Kingdom in 2018. See HM Treasury, *Corporate Tax and the Digital Economy: Position Paper Update* (13 March 2018). See also OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, [390]; Australian Treasury, *The Digital Economy and Australia's Corporate Tax System*, above n 14, 18.
[156] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 171, para 387.
[157] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy: Public Consultation Document, 13 February – 6 March 2019*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 13 February 2019).
[158] See section 5.2.2 of this article.

customer jurisdiction under either a modified residual profit split method[159] or a fractional apportionment method.[160] All of the proposals discussed in the OECD's Public Consultation Document deal with total rather than routine profits of multinational firms that have no physical presence in the source state.[161] The OECD intends to use this new approach to the international allocation of profits in its efforts to develop a consensus-based solution.[162]

In attempt to find a compromise solution, the OECD has developed a so-called 'Unified Approach under Pillar One',[163] which combines elements of earlier discussed proposals[164] with the so-called 'Johnson and Johnson's' proposal which defines a baseline profit in the market jurisdiction.[165] Under the unified approach, routine and some residual profits will be allocated through a combination of transfer-pricing rules, formulary apportionment and a distribution-based approach.[166] The routine profits will be allocated under transfer pricing rules. The difference between total group profits and the sum of its routine profits will constitute 'deemed residual profits' ('Amount A'). A portion of Amount A will be apportioned under the sales-based formula,[167] plus market countries will be allocated a 'fixed remuneration for baseline marketing and distribution functions that take place in the market jurisdiction' ('Amount B') and a compensation amount 'where in-country functions exceed the baseline activity compensated under Amount B' ('Amount C').[168]

The prospect of international support of the unified approach proposal is obscure because of this proposal's overcomplexity, and an opposition of the United States.[169]

---

[159] OECD, *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Inclusive Framework on BEPS (OECD Publishing, 31 May 2019) 12-14, paras 28-29.
[160] Ibid 14-15, paras 30-31.
[161] See OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157, 10-11, paras 23-25, 14-15, paras 43-45, 16, paras 52-53.
[162] OECD, *Programme of Work*, above n 159, 11, paras 23-24.
[163] OECD, *Secretariat Proposal for a 'Unified Approach' under Pillar One: Public Consultation Document, 9 October – 12 November 2019*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 9 October 2019).
[164] See OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157.
[165] For more detail see Alexander Hartley, 'Exclusive: Johnson & Johnson's Katherine Amos discusses her BEPS 2.0 proposal', *International Tax Review* (23 April 2019), https://www.internationaltaxreview.com/article/b1fq9gdpl6lnl4/exclusive-johnson-amp-johnson39s-katherine-amos-discusses-her-beps-20-proposal (accessed 1 February 2020).
[166] OECD, *Secretariat Proposal for a 'Unified Approach' under Pillar One*, above n 163, 8-9, paras 24-30 and Appendix A.
[167] Ibid 9, para 30.
[168] Ibid. For a recently amended version of the Unified Approach under Pillar One see the OECD, *Statement by the OECD/G20 Inclusive Framework on BEPS on the Two-Pillar Approach to Address the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Base Erosion and Profit Shifting Project (OECD Publishing, 29-30 January 2020).
[169] See also Julie Martin, 'Paris Consultation Reveals Little Unity on OECD's "Unified Approach" for Taxing Multinational Groups, *MNE Tax* (26 November 2019), https://mnetax.com/paris-consultation-reveals-little-unity-on-oecds-unified-approach-for-taxing-multinational-digital-and-tech-companies-36730 (accessed 1 February 2020). See also the exchange of views between the Secretary of the Treasury United States Mr Steven Mnuchin and the OECD's Secretary-General Mr Jose Angel Gurría about the international allocation of business profits in the digitalised economy, which took place in December 2019: https://home.kpmg/content/dam/kpmg/us/pdf/2019/12/treasury-letter-oecd-digital-services-tax.pdf and

The European Parliament has declared its commitment to propose an EU solution,[170] should an international deal not be reached by the end of 2020.[171]

5.2 Problems of place

The problems of place embrace a number of difficulties with the identification of the geographical location of the place where economic value is created. The current international corporate tax system seeks not only to associate this place with a specific geographic territory, but also assumes that all relevant geographic territories are associated with states.[172] Moreover, the current international corporate tax system was designed when the general assumption was that a final product is produced in a single place and the use of each resource that adds value to production of this product also occurs in a single place. In relation to the production of digital services, the production of those services 'in a single state' means the technical infrastructure (web servers, software, data centres, telecommunication infrastructure, etc.) located in a single state and inputs (human and non-human) made in the same state were used to produce the services.

It follows from the issues discussed in section 3 of this article that, when it comes to multinational platform firms, at least three practical problems related to identifying the place of economic value creation may arise because of a non-territorial nature of a value creation process; virtual presence in an economic life of a market state; and the 'statelessness' of income.

5.2.1 Non-territorial nature of a value creation process

From a tax perspective, value may be seen as being 'added' in the production of a product (or to the value pie of a firm) simultaneously in the territories of many states. First, value may be added simultaneously in multiple states because of the business structure of a firm, such as when the entities of a multinational platform firm and the firm's customers are located in many states and participate in a single value creation process. Such a process may incorporate multiple transactions. However, as explained in section 3.3.1, in a platform firm a value creation process may be economically indivisible because of a multi-sided structure of the firm's business. When the firm is a multinational, this indivisible process may span the territories of many states.

Second, economies of scale available to a firm are greater for firms operating in a globally integrated economic environment. As set out in section 3.3.2 economies affect the size of the value pie of a platform firm. Therefore, the economic environment matters for both the size of economies and the value pie. When the economic

---

http://www.oecd.org/tax/Letter-from-OECD-Secretary-General-Angel-Gurria-for-the-attention-of-The-Honorable-Steven-T-Mnuchin-Secretary-of-the-Treasury-United-States.pdf (accessed 1 February 2020).

[170] EU Parliament, *Parliament Keeps up Pressure to Tax Digital Economy More Fairly: Press Release* (18 December 2019), https://www.europarl.europa.eu/news/en/press-room/20191212IPR68924/parliament-keeps-up-pressure-to-tax-digital-economy-more-fairly (accessed 1 February 2020).

[171] For a brief overview of the current situation see Rasmus Corlin Christensen and Martin Hearson, 'The Future of Global Corporate Taxation Is More Uncertain Than Ever', *Roosevelt Institute Blog* (10 December 2019), https://rooseveltinstitute.org/the-future-of-global-corporate-taxation-is-more-uncertain-than-ever/ (accessed 1 February 2020).

[172] A 'state' in this context means an autonomous tax jurisdiction whether or not it is recognised as a nation state.

environment extends beyond national borders of a single state, a value adding effect of the economies occurs in many states.

Both situations are present in the activities of multinational platform firms. The value creation process of these firms is, therefore, non-territorial in the traditional international taxation sense where territory means the territory of a single state. If a value creation process is non-territorial, items of business profits cannot logically be attributed to a single permanent establishment or allocated to a single entity within a firm under the current international corporate tax system, even though they are so allocated as a matter of tax law. Problems with laws designed for a territorial system of nation states being applied to new technology are evident in many areas.[173] In the international tax field, the problem of the 'non-territoriality' of a value creation process can be eased (if not solved) through the development of a new standalone nexus rule which would link business profits directly to a source state. The 'user participation' proposal developed by the United Kingdom[174] and discussed in the OECD's Public Consultation document[175] contains this type of rule. The OECD has considered a possibility of the development of a standalone nexus rule, as an alternative to amendments to the permanent establishment concept, during its work on a consensus-based solution.[176]

5.2.2 Virtual presence

A platform firm can provide its digital services to customers worldwide without being present in a state where these customers are located (the 'market state') in the way which is required by the model permanent establishment concept,[177] and national statutory and treaty rules based on this concept. In this case the virtual presence of the platform firm in the economic life of the market state cannot create a nexus with this state for income tax purposes.

The model permanent establishment concept is based on a physical presence standard. This standard is at odds with the structure of many economic activities in the digitalised economy. The storage of digital services in the market state, as an economic activity separate from production and distribution of those services, is often impossible. Multinational platform firms do not have data centres in most states where they operate.

---

[173] For instance, the non-territorial nature of data stored in 'the cloud' composed of server farms located in many states was not recognised by the Court in the case *Microsoft Corp v United States*, 829 F 3d 197 (2d Cir 2016), vacated and remanded, *United States v Microsoft Corp* 584 US _ (2018). See Case note, '*Microsoft Corp v United States* 2d Cir 2016' (2016) 130(2) *Harvard Law Review* 769. See also Andrew Keane Woods, 'Litigating Data Sovereignty' (2018) 128(2) *Yale Law Journal* 328. In similar cases against Google (No. 16-960-M-01 and No. 16-1061-M) the District Court of Pennsylvania did not comment on the non-territorial nature of data stored in 'the cloud'. The Court ruled that copying of this data to web servers located in the United States under the FBI warrants will not be a 'seizure of private information occurred abroad'. See Orin Kerr, 'Google Must Turn Over Foreign-stored Emails Pursuant to a Warrant, Court Rules', *The Washington Post* (4 February 2017), https://www.washingtonpost.com/news/volokh-conspiracy/wp/2017/02/03/google-must-turn-over-foreign-stored-e-mails-pursuant-to-a-warrant-court-rules/ (accessed 22 January 2020).

[174] HM Treasury, *Corporate Tax and the Digital Economy, Position Paper* (November 2017); HM Treasury, *Corporate Tax and the Digital Economy, Position Paper Update*, above n 155.

[175] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157, 9–11 [2.2.1].

[176] OECD, *Programme of Work*, above n 159, 18, para 40.

[177] OECD, *Model Tax Convention on Income and on Capital*, above n 107, art 5; UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 5.

Virtually all of the contracts with customers in the market states are concluded online over websites, where forms can be submitted and online payments made. Virtually all of these websites are usually located on web servers outside the market state's territory. Furthermore, contracts with customers in the market state are usually formally concluded by subsidiaries of multinational platform firms incorporated in a low or no tax jurisdiction. Therefore, it is almost impossible to make the case that, under tax legislation of most market states, multinational platform firms are subject to substantial (or any) corporate income tax in the market state.

The improvement of the permanent establishment concept was one of the set of 'actions' that were an outcome of the OECD's BEPS project.[178] This action, however, has focused on tax avoidance strategies of multinational firms and has not targeted the virtual presence of 'highly digitalised businesses'[179] in the economic life of many states. The OECD has referred to the inability of states to tax income from this virtual presence as a 'problem with nexus', which is part of the 'broader tax challenge' rather than 'tax avoidance'.[180] Some potential solutions to the nexus problem have been discussed in the framework of the BEPS project.[181] However, comprehensive recommendations for a coordinated response to the nexus problem are yet to be made.[182] Solutions to this problem can be sought through the development of a new nexus or a stand-alone withholding tax.

(i) New nexus

The G20 and the OECD expected that many of the broader tax challenges in the digitalised economy, including the problem with nexus, could be mitigated through modifications to the exceptions from permanent establishment status[183] under the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (MLI).[184] Paragraph 1 of Article 12 of the MLI gave effect to the recommendation of the final BEPS report to amend paragraph 5 of Article 5 of

---

[178] See OECD, *Action 7 – 2015 Final Report: Preventing the Artificial Avoidance of Permanent Establishment Status* (OECD Publishing, 2015).

[179] 'Highly digitalised businesses' is a broad concept that applies when business has some of the following characteristics: cross-jurisdictional scale without mass; the heavy reliance on intangible assets, especially intellectual property (IP); and the importance of data, user participation and their synergies with IP. For more detail see OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 24-25, paras 32-35. These businesses may be large and grow quickly in terms of revenue, market share and influence but not by traditional measures of mass (employees, capital equipment or buildings). See OECD, 'Vectors of Digital Transformation' (OECD Digital Economy Papers No. 273, January 2019) 12.

[180] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 146-147, paras 376-380.

[181] These options include a new permanent establishment nexus based on the concept of significant economic presence, a withholding tax on certain types of digital transactions, and an 'equalisation levy' on digitals services: see ibid 107-113, paras 277-292 and 115, para 302.

[182] The final report on the implications of digitalisation for taxation is due in 2020: see ibid 13.

[183] Ibid 148, para 383 and 144-146, paras 368-375.

[184] *Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting*, signed 7 June 2017 (entered into force 1 July 2018). Sixty-eight jurisdictions initially signed this convention, and by 19 December 2019 it had been signed by 93 jurisdictions: OECD, *Signatories and Parties to the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting, status as of 19 December 2019*, http://www.oecd.org/tax/treaties/beps-mli-signatories-and-parties.pdf.

the OECD Model Tax Convention.[185] The rule extends the meaning of a dependent agent permanent establishment by providing that such a permanent establishment would arise when a person:

> […] is acting in a Contracting State on behalf of an enterprise and has, and, in doing so, habitually concludes contracts, or habitually plays the principal role leading to the conclusion of contracts[186] that are routinely concluded without material modification by the enterprise […].[187]

Significantly, the OECD has not recommended replacement of the physical presence standard of the permanent establishment concept with the obvious alternative – the economic presence standard.[188] Moreover, the MLI itself turned out to be an instrument with a very limited scope because many of the states that signed the MLI have elected not to apply its Article 12 to their own double tax agreements. If contracts are concluded via an online automation process, no permanent establishment arises in the source state. The same result occurs if contracts are signed in states that have refused to sign the MLI or elected not to apply its Article 12 to their own double tax agreements. Among these states are Ireland[189] and Singapore[190] – states where mega-regional distributional centres of Google (and subsidiaries of many other multinational platform firms and other highly digitalised businesses) are located.

Many states did not accept that either the OECD recommendations made in its Final Report of 5 October 2015[191] or the Interim Report on Digitalisation of 16 March 2018[192] were sufficient to solve the tax challenges of digitalisation they faced.[193] Many of these states have started seeking unilateral solutions to these challenges.[194] These solutions

---

[185] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 148, para 383 and 144-146, paras 368-375.

[186] 'The phrase "or habitually plays the principal role leading to the conclusion of contracts […]" is aimed at situations where the conclusion of a contract directly results from the actions that the person performs in a Contracting State on behalf of the enterprise even though, under the relevant law, the contract is not concluded by that person in that State': See OECD, *Action 7 – 2015 Final Report: Preventing the Artificial Avoidance of Permanent Establishment Status*, above n 169, 18-19 on from the proposed amendment to paragraph 32 (ie, subparagraph 32.5); OECD, Commentaries on the Articles of the Model Tax Convention in OECD, *Model Tax Convention on Income and on Capital*, above n 107.

[187] See OECD, *Action 7 – 2015 Final Report: Preventing the Artificial Avoidance of Permanent Establishment Status*, above n 178, 16, para 9.

[188] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 107-113, paras 277-291.

[189] Department of Finance, Ireland, *Status of List of Reservations and Notifications at the Time of Signature of the MLI*, http://www.oecd.org/tax/treaties/beps-mli-position-ireland.pdf (accessed 1 February 2020). *List of Reservations and Notifications upon Deposit of the Instrument of Ratification of the MLI,* http://www.oecd.org/tax/treaties/beps-mli-position-ireland-instrument-deposit.pdf (accessed 1 February 2020).

[190] Singapore, *Status of List of Reservations and Notifications at the Time of Signature of the MLI*, http://www.oecd.org/tax/treaties/beps-mli-position-singapore.pdf (accessed 1 February 2020). *List of Reservations and Notifications upon Deposit of the Instrument of Ratification of the MLI,* http://www.oecd.org/tax/treaties/beps-mli-position-singapore-instrument-deposit.pdf (accessed 1 February 2020).

[191] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4.

[192] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6.

[193] Ibid 18-19, para 18, 24-26, paras 33-43, 51, para 132, 91-93, paras 262-267, 100, para 283 and 107, para 309.

[194] For some examples of these unilateral responses see ibid, ch 4.

generally range from developing a new permanent establishment nexus,[195] imposing new withholding taxes,[196] levying an excise tax on turnover from sales of some digital services or the 'Digital Services Tax',[197] or enacting anti-BEPS legislation that forces large multinationals to attribute more income to their subsidiaries and permanent establishments in source states.[198]

The worldwide wave of unilateral responses has facilitated the search for a consensus-based solution by the members of the Inclusive Framework on BEPS – the global forum of 137 tax jurisdictions working together under the aegis of the OECD and the G20 on solutions to the cross-border tax base erosion problem.[199] Since January 2019 the OECD has issued several documents that coordinate the search for a consensus-based solution.[200] As a result of this work three proposals for changes to the nexus rules and the attribution rules have to date been outlined and analysed. These proposals include the 'user participation' proposal', the 'marketing intangible' proposal, and a 'significant

[195] For instance, if a foreign supplier is not based in a country with which Israel has a double tax agreement but has 'significant digital presence' in Israel this supplier should pay tax in Israel on profits from significant digital presence. Suppliers based in a country with which Israel has a double tax agreement must not only have a significant digital presence in Israel, but must also conduct activity on the ground in Israel. See Israel Tax Authority, 'Online Activities of Foreign Corporations in Israel' (Circular No. 4/2016, 11 April 2016) (in Hebrew) https://taxes.gov.il/incometax/documents/hozrim/hoz_kalkala_2016.pdf (accessed 1 February 2020). See also OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 137. Another example is that a 'business connection in India' is a tax nexus with profits of foreign suppliers of digital services in India. This nexus is subject to India's existing DTAs. See *Finance Bill 2018* (India), ch III, cl 4 (Amendment of Section 9(1) of the Income Tax Act of 1961), 6-7, https://www.incometaxindia.gov.in/budgets%20and%20bills/2018/finance-bill-2018.pdf (accessed 1 February 2020). The amendment took effect from 1 April 2019. See Memorandum to Finance Bill 2018: Provisions Relating to Direct Taxes, 8-9, https://www.incometaxindia.gov.in/budgets%20and%20bills/2018/memo-2018.pdf (accessed 1 February 2020). See also OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 138.

[196] Government of Turkey, *Presidential Decree No. 476* (Official Gazette, 19 December 2018). See also EY, 'Turkey Issues Guidance Regarding Withholding Taxes Imposed on Online Advertising Services', *Global Tax Alert* (18 February 2019), https://www.ey.com/Publication/vwLUAssets/Turkey_issues_guidance_regarding_withholding_taxes_imposed_on_online_advertising_services/$FILE/2019G_000456-19Gbl_Turkey%20-%20WHT%20taxes%20on%20online%20advertising%20services.pdf (accessed 1 February 2020).

[197] For more detail see section 6 of this article.

[198] For instance, the UK's Diverted Profits Tax (DPT) has applied since 1 April 2015. See *Finance Act 2015* (UK) and HM Revenue and Customs, *Diverted Profits Tax, Guidance* (30 November 2015). See also the Australian Multinational Anti-Avoidance Law (MAAL) and the DPT. The MAAL came into effect on 11 December 2015. It applies to certain schemes in place on or after 1 January 2016, irrespective of when the scheme commenced. See *Tax Laws Amendment (Combating Multinational Tax Avoidance) Act 2015* (Cth). See also *Treasury Laws Amendment (Combating Multinational Tax Avoidance) Act 2017* (Cth) and *Diverted Profits Tax Act 2017* (Cth). For a summary of Australia's anti-BEPS actions see Australian Treasury, *The Digital Economy and Australia's Corporate Tax System*, above n 14, 10-11. For an example of New Zealand anti-BEPS legislation see *Taxation (Neutralising Base Erosion and Profit Shifting) Act 2018* (NZ).

[199] OECD, 'Members of the OECD/G20 Inclusive Framework on BEPS' (December 2019), https://www.oecd.org/ctp/beps/inclusive-framework-on-beps-composition.pdf, (accessed 1 February 2020).

[200] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Policy Note* (as approved by the Inclusive Framework on BEPS on 23 January 2019); OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157; OECD, 'Tax and Digitalisation', *Policy Brief* (March 2019); OECD, *Programme of Work*, above n 159.

economic presence' proposal.[201] The nexus in each of these proposals is not based on physical presence.[202] The OECD has decided to work on 'the design of a new nexus rule that would capture a novel concept of business presence in a market jurisdiction, not constrained by physical presence requirement'.[203] This new rule will either be incorporated in the permanent establishment concept or take the form of a standalone rule 'establishing a new and separate nexus, either through a new taxable presence or a concept of source'.[204]

(ii) Standalone withholding tax

A standalone gross-basis final withholding tax is an alternative solution to changes of the nexus rules that could increase the income tax base in the source state.[205] This tax can be used in three distinct ways. First, a source state can extend its definition of royalties to cover business profits from the supply of some services.[206] Second, definition of royalties can cover foreign-to-foreign related-party payments connected to local sales.[207] Third, a source state could levy a standalone gross-basis final withholding tax on fees for technical services (or services in general).[208]

In principle, levying a standalone gross-basis final withholding tax on services of highly digitalised businesses makes economic sense because these businesses often have low marginal costs, which makes gross income a reliable proxy for net income in many circumstances.[209] This tax also can simplify the collection of tax revenue from business-to-business activities of non-resident suppliers.[210]

Use of a standalone gross-basis final withholding tax has, however, many limitations. First, this tax is a type of income tax and, therefore, is subject to withholding tax obligations and non-discrimination obligations[211] that can be imposed by a double tax agreement on its participants. Second, this tax cannot be applied to interest and royalty payments made between associated companies of states that are members of the

---

[201] See OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157, ch 2.
[202] Ibid 9-12, paras 18-20 and 30-32, and 16, para 51.
[203] OECD, *Programme of Work*, above n 159, 11, para 24.
[204] Ibid 18, para 40.
[205] See discussion about a withholding tax on digital transactions in OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 113-115, paras 292-301.
[206] See examples in OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 139-140, para 357. See also *Finance Act 2017* (No. 785) (Malaysia).
[207] See *Finance Act 2019* (UK), Sch 3. See also HM Revenue and Customs and HM Treasury, 'Offshore Receipts in Respect of Intangible Property (previously Royalties Withholding Tax). Summary of Responses' (29 October 2018) 6, 18-19.
[208] See Commentary to Article 12A in UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107. In the context of the UN Model Double Taxation Convention technical services covered by Article 12A are those that include the application by the service provider of specialised knowledge, skill, or expertise on behalf of a client or the transfer of knowledge, skill, or expertise to the client, other than a transfer of information covered by the royalties definition in Article 12.
[209] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 114-115, para 298.
[210] Ibid 114, paras 295-296.
[211] A non-discrimination provision of DTAs generally requires equal tax treatment for residents and non-residents. See OECD, *Model Tax Convention on Income and on Capital,* above n 107, art 24; UN, *Model Double Taxation Convention between Developed and Developing Countries*, above n 107, art 24.

European Union.[212] European Union law also imposes comparable obligations on some of its members. These obligations require non-discrimination between resident and non-resident businesses, which can make it impossible to levy a standalone gross-basis final withholding tax on non-resident suppliers.[213] Third, a standalone gross-basis final withholding tax, if levied only on income derived by non-residents, can potentially violate national treatment provisions of trade agreements of member states,[214] unless withholding taxes are exempt under Article XX of the General Agreement on Tariffs and Trade (GATT). Fourth, a non-resident supplier of goods or services can pass the burden of a standalone gross-basis final withholding tax on to its customers by 'grossing up' royalty payments or service fees. Suppliers with market power are not constrained by competition and, therefore, will not miss this opportunity. Finally, any withholding tax creates considerable administrative difficulties and increases administration and compliance costs when applied to business-to-customer activities.[215] These difficulties mean that a standalone gross-basis final withholding tax has been found not to be a viable option for a consensus-based international solution to the virtual presence problem.[216]

5.2.3 'Statelessness' of income

A problem known as 'stateless income' occurs when it is not possible to associate the place where a final product was produced, or where value to this product was added, with a territory of any state. The OECD suggests that income may become stateless when a multinational firm designs its tax arrangements around limitations imposed on the taxing rights of source states by double tax agreements or other international or national laws.[217] In practice, to become truly stateless, income should also not be subject to tax in the taxpayer's state of residence. Sometimes the combination of technological development and the international law principle of territoriality[218] can also make business income stateless. There are extraterritorial zones free of the sovereign rights of any particular state.[219] Hypothetically, if one day the United States (the home country

---

[212] European Council, Council Directive 2003/49/EC on a Common System of Taxation Applicable to Interest and Royalty Payments Made between Associated Companies of Different Member States [2003] OJL 157, art 1(1): 'Interest or royalty payments arising in a Member State shall be exempt from any taxes imposed on those payments in that State, whether by deduction at source or by assessment, provided that the beneficial owner of the interest or royalties is a company of another Member State or a permanent establishment situated in another Member State of a company of a Member State'.

[213] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 115 [300].

[214] See, for instance, the General Agreement on Tariffs and Trade (GATT) Article III (national treatment on internal taxation and regulation) and the General Agreement on Trade in Services (GATS) Article XVII (national treatment). Unlike the GATT which provides no exceptions to national treatment obligations, the GATS contains broad exceptions related to DTAs and provisions aimed at ensuring the equitable or effective imposition of direct taxes.

[215] OECD, *Action 1 – 2015 Final Report: Addressing the Tax Challenges of the Digital Economy*, above n 4, 114, paras 295-297.

[216] Ibid 115, para 301.

[217] Ibid 12, 82, 84 and 146. For discussion on stateless income see Edward D Kleinbard, 'Stateless Income and its Remedies' in Thomas Pogge and Krishen Mehta (eds), *Global Tax Fairness* (Oxford University Press, 2016) 129.

[218] A worldwide system of taxation is premised on the international law principle of nationality expressed through the residence principle of taxation. A territorial system of taxation is premised on the international law principle of territoriality expressed through the source principle of taxation. See Reuven S Avi-Yonah, *Advanced Introduction to International Tax Law* (Edward Elgar Publishing, 2015) 8-11.

[219] For instance, *res communis* are not subject of jurisdiction of a particular state. The *res communis* include high seas, together with exclusive economic zones, and outer space. See Malcolm N Shaw, *International*

for Google) were to move entirely from a worldwide system of corporate income taxation to a system of territorial taxation,[220] the use of technology developed by Google would allow Google to keep its web server farms and personnel in extraterritorial zones and thereby legally avoid taxation of corporate income originating from these zones. The example is rather futuristic, but not beyond the realms of possibility:

> [t]he U.S. Patent and Trademark Office granted Google's patent on a water-based data center on April 28, 2009. The data center would be made up of servers inside containers like those normally used for the carriage of goods by sea or rail. Cranes would place these containers on ships or barges. The containers would be linked together to form large data centers that would be located at sea wherever necessary. Ocean waves, tides, or currents would supply power to these floating data centers, and pumping the surrounding water through an onboard system would cool them.[221]

Another example was a Google initiative to launch hot air balloons carrying computer equipment to create a high-speed Internet infrastructure around the world.[222] In a world where national tax systems are still largely autonomous and the right to tax is linked to sovereignty, while sovereignty is exercised only over a geographical territory other than an extraterritorial zone, there will always be gaps between tax jurisdictions and places for 'stateless' income. The 'second pillar' or the 'global anti-base erosion proposal' discussed in the framework of the BEPS project can ease the stateless income problem.[223] This proposal contains two interrelated rules. An income inclusion rule would require taxation of the income of a foreign branch or a controlled entity if that income was subject to a low effective tax rate in the jurisdiction of establishment or residence. An undertaxed payments rule would deny a deduction or treaty relief for certain payments unless that payment was subject to an effective tax rate at or above a minimum rate.[224] The global anti-base erosion proposal targets multinationals generally and would require an international agreement on a minimum rate of income tax.[225]

5.3 Consensus-based solutions

Proposals grouped by the OECD into two so-called 'pillars' and discussed in a number of documents[226] could form the basis for the international consensus on two groups of

---

Law (Cambridge University Press, 6th ed, 2008) 492; Ian Brownlie, *Principles of Public International Law* (Clarendon Press, 5th ed, 1998) 105, 173-175.

[220] For discussion of recent changes of the tax system of the United States see, for instance, Paul C Nylen, 'We Once Had a Worldwide Tax System. What Do We Have Now?' (2018) 90(8) *Tax Notes International* 859.

[221] Steven R Swanson, 'Google Sets Sail: Ocean-Based Server Farms and International Law' (2011) 43(3) *Connecticut Law Review* 709, 716-717.

[222] Anna Turner, 'Balloon-powered Internet Launches in [Christchurch]', *The Press* (15 June 2013), http://www.stuff.co.nz/the-press/news/8800918/Balloon-powered-internet-launches-in-Chch (accessed 23 January 2020). See also 'Google Balloon Crashes off Canterbury Coast', *Newshub* (19 June 2014), http://www.newshub.co.nz/nznews/google-balloon-crashes-off-canterbury-coast-2014062012 (accessed 23 January 2020).

[223] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157, 24-29, paras 88-109. OECD, *Programme of Work*, above n 159, ch 3.

[224] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document*, above n 157, 25, para 92. For more detail see ibid 25-29, paras 96-108.

[225] Ibid 24-29, paras 88-109.

[226] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Policy Note*, above n 200; OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation*

matters: the profit allocation and nexus (pillar one), and a minimum level of taxation of income derived by multinationals (pillar two). These proposals could potentially solve or ease all tax challenges discussed in this article.

A consensus-based solution is effectively the only solution to these problems. Unilateral responses will not solve these problems but will create new ones not only for multinational firms but for states themselves. First, states are bound by the international commitments these states made in their double tax agreements. These commitments make it impossible for one party to unilaterally make changes to the nexus rules it applies without an agreement of other parties to those agreements. The experience with the MLI has demonstrated that even small changes to the permanent establishment concept may be opposed by many, and even the vast majority of, states. The national legislation of some states allows them to override their double tax agreements. However, this override could be costly politically and economically if the trading partners of an overriding state with whom this state has double tax agreements do not support the override.

Second, any improvements to the nexus rules would require international coordination. International coordination reduces the risk of juridical double taxation and provides a basis for international requests for assistance in the enforcement of tax claims based on nexus rules. Coordination would be particularly important when it comes to multinational platform firms, because the business activities of these firms operate globally. Without international coordination multinational platform firms would have to either pay more tax or change their business models. It would be very costly for these firms to change own business models to avoid this double taxation. For states, uncoordinated 'improvements' of their profit attribution or nexus rules may make it very difficult (if not impossible) to enforce their tax claims against multinational firms outside these states' territories.

Third, uncoordinated changes of profit attribution or nexus rules may not generate substantial, if any, tax revenue. Facing pressure from foreign governments, multinational platform firms, and Google in particular, are changing the structure of their operations in some states where the firm's multisided market operates.[227] However, the increase in corporate tax revenues paid by Google in the United Kingdom[228] and Australia[229] (two states that between 2015-2017 unilaterally introduced anti-BEPS

Document, above n 157; OECD, *Tax and Digitalisation* (Policy Brief, March 2019); OECD, *Programme of Work*, above n 159; OECD, *Statement by the OECD/G20 Inclusive Framework on BEPS on the Two-Pillar Approach to Address the Tax Challenges Arising from the Digitalisation of the Economy*, above n 168.

[227] For details of the changes of business structures of Google and other large tech multinationals, see OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, 91-92, para 262, and 107, para 309.

[228] House of Commons, Committee of Public Accounts, United Kingdom, *Corporate Tax Settlements*, Twenty-fifth Report of Session 2015-16, HC 788 (23 February 2016).

[229] See Nassim Khadem, 'Google Restructures to Avoid Hefty Penalties in Australia, as Tax Bill hits $16 million', *The Sydney Morning Herald* online (29 April 2016), https://www.smh.com.au/business/the-economy/google-restructures-to-avoid-hefty-penalties-in-australia-as-tax-bill-hits-16-million-20160429-goi8fl.html (accessed 23 January 2020); a media report in the following year noted that 'Google and Facebook have reported only a third of their estimated Australian revenue under the first year of the Multinational Anti-Avoidance Legislation, while slashing payments they made to their local operations for services. The two tech giants, which account for more than three-quarters of all online advertising in the world, reported a combined $1.2 billion in ad revenue from Australian clients, but lifted their combined pre-tax profits by only $77 million. Thanks to MAAL, tax was up by $19 million': Neil Chenoweth and

measures such as the diverted profits tax and multinational anti-avoidance law) has turned out to be much less than was initially anticipated based these firms' country gross profits and headline rates.[230] Profits derived by Google before the changes in the structure of the firm's business operations or national tax legislation entirely escaped the tax net of source states.[231]

Finally, and most importantly, unilateral improvements of the profit attribution and nexus rules are unable to tackle the tax challenges discussed in this article holistically and cannot guarantee single taxation of profits from cross-border business activities and their taxation at some minimum level. This failure is not (or not only) a problem with the nexus or profit attribution rules of individual states, but reflects broader dysfunctions in the international corporate tax system. In particular, the use of the separate entity approach upon which the international corporate tax system is premised often results in the existence of more than one nexus (and double taxation) or a lack of a nexus (and non-taxation) between states and items of income derived from cross-border business activities. In other words, the separate entity approach does not by itself provide a sufficient level of coordination between nexus rules of different states that would make both double taxation of income and its double non-taxation impossible. This lack of coordination is an intrinsic feature of the separate entity approach and, therefore, is a problem with the model underlying the international corporate tax system rather than a 'problem of the nexus or profit allocation rules'.

Another intrinsic feature of the separate entity approach is its inability to assess the overall income tax liability of a multinational firm and provide a basis for rules that would set minimum and maximum levels of taxation of multinationals' business profits. Each state, under the separate entity approach, is free to determine the tax base for business income and apply any statutory rate of a corporate income tax, including a tax rate of zero. This freedom encourages cross-border profit shifting, erodes the tax bases of states with high rates of income tax, and often is not very beneficial for states that tax income at a very low level (if it at all).[232]

Max Mason, 'How Google, Facebook Dodged $1.2 billion MAAL Tax Bullet', *Australian Financial Review* (28 April 2017), http://www.afr.com/technology/social-media/google/how-google-facebook-dodged--12-billion-maal-tax-bullet-20170428-gvuzjd (accessed 23 January 2020).

[230] No information is available about New Zealand. The *Taxation (Neutralising Base Erosion and Profit Shifting) Act 2018* (NZ) does not tackle virtual presence of multinational platform firms. Therefore, it is unlikely the Act will make these firms pay more corporate tax in New Zealand. For more detail see Plekhanova, 'Taxation of Global Digital Matchmakers', above n 147.

[231] For instance, French tax authorities have lost the second round of litigation against the Irish subsidiary of Google. On 25 April 2019, the Paris Administrative Court of Appeal confirmed a decision of the Administrative Court of Paris issued on 12 July 2017 that Google Ireland Limited had had no permanent establishment in France from 2005-2010. See Decision of the Paris Administrative Court of Appeal No. 17PA03065, http://paris.cour-administrative-appel.fr/content/download/160497/1624543/version/1/file/17PA03065.pdf (accessed 1 February 2020). See also Pascal Luquet, Mickaël Duquenne, and Paul Bufort, 'Google Doesn't Owe French Tax on Sales to Advertisers, Court Rules', *MNE Tax* (23 May 2019), https://mnetax.com/google-doesnt-owe-french-tax-on-sales-to-advertisers-court-rules-33887 (accessed 1 February 2020).

[232] For instance, according to UNCTAD, multinationals from a sample of 25 developed states registered more profits as being earned in Bermuda than in China in 2014: the relative magnitude of the profits of these firms was 779.4 per cent of the gross domestic product (GDP) of the economy of Bermuda. At the same time in 2015-2016 the Bermudan economy was not growing and the territory was barely coping with the increasing costs for servicing of its financial debt. See UNCTAD, *World Investment Report 2016. Investor Nationality: Policy Challenges* (New York and Geneva, 2016) 21.

Consensus-based international solutions to the tax challenges of digitalisation will not, however, be easy to reach. Many developing states traditionally support a full unitary apportionment for business profits of all multinationals;[233] the United Kingdom seems to want new nexus and profit attribution rules only for multinational platform firms.[234] The United States advocates new nexus rules for highly digitalised businesses but may be reluctant to support any rules that would allocate a substantial amount of economic rents to source states.[235] Many low or no tax jurisdictions may find the global anti-base erosion proposal[236] unappealing unless this proposal is coupled with aid programs to help these jurisdictions to recover from revenue losses that a disappearance of their 'shelter' industries will cause.

6. CONCLUSION

This article has discussed the nature of platform firms and the process of value creation within a platform firm. Drawing on this analysis and an examination of the model applied under the current international corporate tax system for the international allocation of business profits, a number of failures of the international corporate tax system to allocate the business profits of multinational platform firms in accordance with value creation were identified. These failures give rise to two key groups of tax challenges: problems with the measurement of value added (problems of price), and problems with the identification of location where value was added (problems of place).

The problems of price discussed in this article include measurement difficulties related to intangibles; multisided market business structures; the integrated nature of production and distribution of digital services; and customer participation in a value creation process. The problems of place embrace the difficulties with the identification of the geographical location of economic value creation when a value creation process is non-territorial, or suppliers of digital services are virtually present in the economic life of a market state, or income is stateless.

The 'problems of price' could be solved, or at least mitigated, by the development of some proxies for the value added or created. However, the 'problems of place' (ie, non-territoriality of the value creation process, the virtual presence in the economic life of a state, and stateless income) are more complicated. The solution to these problems would

---

[233] A proposal recently made by the working group led by India, Colombia, and Ghana in the framework of Action 1 of the BEPS project is generally structured along this line. See G24 Working Group on Tax Policy and International Tax Cooperation, *Proposal for Addressing Tax Challenges Arising from Digitalisation* (17 January 2019) 6-7, paras 14-15, https://www.g24.org/wp-content/uploads/2019/03/G-24_proposal_for_Taxation_of_Digital_Economy_Jan17_Special_Session_2.pdf (accessed 1 February 2020).

[234] HM Treasury, *Corporate Tax and the Digital Economy, Position Paper*, above n 174; HM Treasury, *Corporate Tax and the Digital Economy, Position Paper Update*, above n 155.

[235] The US officials favour a global minimum rate of income tax and would support only granting relatively modest additional taxing rights to source states under the 'marketing intangibles' proposal. See Julie Martin, '"Marketing Intangibles" Solution to Global Digital Tax Dispute Should Apply Only to Consumer-facing Businesses, US Official Says', *MNE Tax* (19 February 2019), https://mnetax.com/marketing-intangibles-solution-to-digital-tax-dispute-should-apply-only-to-consumer-facing-businesses-us-official-says-32441 (accessed 23 January 2020). See also Julie Martin, 'Countries Won't Abandon Arm's Length Principle in Global Tax Overhaul, US Official Says', *MNE Tax* (2 February 2019), https://mnetax.com/international-tax-overhaul-will-retain-arms-length-principle-us-official-assures-32257 (accessed 1 February 2020).

[236] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy, Public Consultation Document,* above n 157, 24-29, paras 88-109. OECD, *Programme of Work*, above n 159, ch 3.

require either a fundamentally new international corporate tax system or should be sought outside of this system.[237]

A fundamentally new international corporate tax system would require the recognition of three facts. First, a multinational platform firm, like any other multinational firm, operates as a single economic unit. For the purpose of the international corporate tax system this unit should be treated as a single taxpayer with corporate tax liabilities to all states where this firm generates value. Second, multinational platform firms (and certain other types of multinationals) create value in a single, integrated economic and technological environment that spans the territories of many states and extraterritorial zones. For the purpose of the recognition of the right to impose taxes in the international corporate tax system, all of the profit of a multinational platform firm should be divided among states where the firm operates. Profits that result from value that is added within a single state should be allocated to that state. Other profits (as well as losses) should be apportioned among all states that have contributed to the integrated economic and technological environment where the firm generates its profits. This could be all of the states in a region where the firm operates or (virtually) all states if the scale of the firm's operations is truly global. Third, a multinational platform firm (and many other highly digitalised businesses) participate in the economic life of many states via the Internet. If the Internet remains a global network and a global marketplace, then the taxation of profits should reflect the virtual nature of economic activities conducted within the Internet infrastructure. Otherwise, for many states their contributions to the maintenance of this global marketplace will remain uncompensated and the global economic and technological infrastructure will be under-provided. Therefore, if states agreed that everyone should get their 'fair share' from Internet activities, the virtual presence in the economic life of a state should be recognised by the international corporate tax system.

States, however, are usually not prone to make fundamental changes of international systems. In the tax area there are a number of reasons for that, including uncertainty of states about future welfare and strategic effects of fundamental changes to the international corporate tax system, the cost and effort already invested in the existing system, and general sensitivity of states to any limitations of their tax autonomy.

If a fundamentally new international corporate tax system seems unlikely, at least in the foreseeable future, states should continue their search for alternatives and coordinate their implementation. The detailed discussion of the 'Digital Services Tax' (DST) in the OECD's Interim Report on Digitalisation[238] and the attempts of some European states to introduce this type of tax unilaterally[239] or as part of the European Union

---

[237] For discussion of these options in a broader context (ie, profits of multinationals) see Joseph Bankman, Mitchell Kane and Alan Sykes, 'Collecting the Rent: The Global Battle to Capture MNE Profits' (NYU Law and Economics Research Paper No. 18-38, November 2018).

[238] See OECD, '*Tax Challenges Arising from Digitalisation – Interim Report 2018*, above n 6, ch 6. According to the report (para 421), the excise tax should be: (i) levied on the supply of a certain defined category or categories of e-services and imposed on the parties to the supply without reference to the particular economic or tax position of the supplier; (ii) charged at a fixed rate, calculated by reference to the consideration paid for those services (without reference to the net income of the supplier or the income from the supply); and (iii) not creditable or eligible for any other type of relief against income tax imposed on the same payment.

[239] For instance, in France the DST applies from 26 July 2019 under *Projet De Loi 'Portant Création D'une Taxe Sur les Services Numériques et Modification de la trajectoire de baisse de l'impôt sur les sociétés'* (No. 2080/616). See Eglantine Lioret and Valérie Farez, 'Insight: France's Digital Services Tax Goes Ahead', *Bloomberg Tax* (29 July 2019), https://news.bloombergtax.com/daily-tax-report-

legislation,[240] suggests that a DST could be a realistic alternative response to the current tax challenges.[241] The DST will not entirely solve the problems of price and the problems of place discussed in this article. However, this tax will mitigate concerns of many states that they are losing significant tax revenue as a result of the lack of a recognised nexus with the business profits of multinational platform firms.

Another possible alternative could be a type of royalty charge or licence fee for access to digital data produced by or obtained from customers of a platform firm located in a state. Further work on such a royalty or fee is needed.

---

international/insight-frances-digital-services-tax-goes-ahead-1. In August 2019 the US and France reached a compromise which requires France to refund all DST once a new international system for taxing multinationals in the digital sector is in place. See Julie Martin, 'US, France Reach Deal on Digital Services Tax', *MNE Tax* (26 August 2019), https://mnetax.com/us-france-reach-deal-on-digital-services-tax-35466. However, in December the Trump administration threatened France with retaliatory tariffs on French goods based on findings of the *Report on France's Digital Services Tax Prepared in the Investigation under Section 301 of the Trade Act of 1974* on 2 December 2019 (Office of the US Trade Representative). France pushed back by suggesting its own retaliatory measures but later agreed to delay application of its DST until the end of 2020. See Dominique Vidalon, 'France Warns US Against Digital Tax Retaliation', *Reuters* (6 January 2020), https://www.reuters.com/article/us-france-usa-tax/france-warns-u-s-against-digital-tax-retaliation-idUSKBN1Z50OB (accessed 1 February 2020). See also BBC News, 'France Agrees to Delay New Tax on Tech Giants', *BBC News* (21 January 2020), https://www.bbc.com/news/business-51192369 (accessed 1 February 2020). Under Italian *Budget Law 2020* (No.160/2019) the DST applies in Italy from 1 January 2020. Italy introduced DST in its Budget Law 2018 (No. 205/2017) and Budget Law 2019 (No. 145/2018). However, the DST provisions of these laws have never entered into force. See Toni Marciante, 'Italy - Update on the Digital Services Tax', *Lexology* (7 January 2020), https://www.lexology.com/library/detail.aspx?g=b1136f3c-4e88-4186-80b8-56b03e4060c2 (accessed 1 February 2020). The United Kingdom aims to apply the DST from April 2020. See HM Revenue and Customs, and HM Treasury, *Overview of Tax Legislation and Rates* (29 October 2018) 22, para 2.19. See also HM Treasury, and HM Revenue and Customs, *Digital Services Tax: Consultation* (November 2018).

[240] France and Germany have been the main drivers of the DST for the EU. See European Commission, *Proposal for a Council Directive on the Common System of a Digital Services Tax on Revenues Resulting from the Provision of Certain Digital Services* (COM/2018/148, 21 March 2018). See also European Commission Note, *Proposal for a Council Directive on the common system of a digital services tax on revenues resulting from the provision of certain digital services General approach*. ST 14886 2018 INIT (29 November 2018).

[241] In 2018 Australia invited public submissions on the DST legislation and later decided not to proceed with an interim measure. See Australian Treasury, *The Digital Economy and Australia's Corporate Tax System*, above n 14, and Hon Josh Frydenberg (Treasurer), 'Government response to Digital Economy Consultation', *Media Release* (20 March 2019), https://joshfrydenberg.com.au/latest-news/government-response-to-digital-economy-consultation/ (accessed 23 January 2020). In June 2019 the New Zealand Inland Revenue Department invited public submissions on the New Zealand Government DST proposal. See Minister of Finance and Minister of Revenue, New Zealand, *Options for Taxing the Digital Economy, A Government Discussion Document* (4 June 2019).