

## Digital Revolution. Tax Revolution?

Piergiorgio Valente<sup>[\*]</sup>

Issue: Bulletin for International Taxation, 2018 (Volume 72), No. 4a/Special Issue

Published online: 26 March 2018

**This article considers key questions regarding the Digital Revolution and its implications for taxation, including what the necessary link for a jurisdiction to tax corporate income is in the absence of a physical presence and how the value derived from data analysis should be apportioned between jurisdictions for tax purposes.**

### 1. Introduction

What seemed like science fiction a few years ago is now science fact. This is referred to as the “Digital Revolution”. And this is evident in the next generation of high technology, which is no longer developing intelligent computers and cyborgs, but is seeking to surpass human beings by creating genuine artificial intelligence (AI).<sup>[1]</sup>

The Digital Revolution has given rise to new ways of doing business. Taxation and law, in general, cannot remain unaffected. New rules are vital to regulate the new realities and to ensure smooth coexistence in new environments. With regard to international taxation, a significant worldwide effort has been, and is being, made to deal with the extent and nature of the implications of the aforementioned scenario and to provide appropriate responses.

In 2013, the OECD/G20 Base Erosion and Profit Shifting (BEPS) initiative<sup>[2]</sup> was launched. Action 1 of the OECD/G20 BEPS Action Plan was devoted to digital economy,<sup>[3]</sup> which appeared to indicate the importance of the Digital Revolution. It is, however, telling that Action 1 is still pending, while the remainder of the OECD/G20 BEPS initiative is now deemed to be closed. In particular, the finalization of Action 1 has been postponed to 2020, not only due to the very significant questions raised in the context of the Action but also because the responses constitute moving targets. Consequently, any new rules must embrace a rapidly changing reality, an endless metamorphosis beyond reasonable expectations. The OECD has also initiated a completely new project, “Going Digital”,<sup>[4]</sup> with a view to addressing the whole spectrum of the consequences of digitalization. In the meantime, the OECD is keeping the tax debate going by making revolutionary suggestions for taxation in the future, which could, for example, even be imposed on robots.<sup>[5]</sup>

This article seeks to contribute to the debate on taxation in the “Information Age” by raising the questions and highlighting the factors that must be carefully examined. To this end, it evolves in five parts. The first part provides a comprehensive overview of the implications of the Digital Revolution that have been identified as affecting taxation (see section 2.). The second part considers the tax legislation that has been implemented at national level in different parts of the world to regulate digital transactions (see section 3.). The third part examines measures under consideration at international level that could be used to determine allocation of taxing rights among jurisdictions in the digital environment (see section 4.). The fourth part raises further pending questions (see section 5.). The fifth, and final, part closes the article by concluding that digitalization has effectively revolutionized our way of living, thereby necessitating the creation of a new balance by way of a corresponding revolution of our attitude towards life (see section 6.).

---

\* **Managing Partner, Valente Associati GEB Partners, web address, [www.gebpartners.it](http://www.gebpartners.it), and Adjunct Professor of EU Tax Law and Tax and Financial Planning, Link Campus University, Rome. The author can be contacted at [p.valente@gebnetwork.it](mailto:p.valente@gebnetwork.it).**

1. The effects of the Digital Revolution are innumerable and multifaceted. Dispute resolution, education, employment, healthcare, human rights and transport are just a few of the areas that are affected. Robots now permeate every aspect and sphere of human life, both personal and professional. Thinking machines and humanized robots are becoming the new doctors, the new drivers, the new judges and the new professors, as well as the new chefs, the new secretaries and the new vendors, and this is only the beginning. Modern relationships now more and more involve humans and quasi-humans.
2. The OECD/G20 BEPS initiative was launched in 2013 with OECD, *Addressing Base Erosion and Profit Shifting* (OECD 2013), International Organizations' Documentation IBFD. This report sought to identify the circumstances in which domestic and international tax rules were not aligned with modern business practices and procedures and, therefore, facilitated tax avoidance. The OECD/G20 BEPS initiative evolved into 15 Actions dealing with the primary challenges identified. These were set out in OECD, *Action Plan on Base Erosion and Profit Shifting* (OECD 2013), International Organizations' Documentation IBFD. In October 2015, the Final Reports on the 15 Actions were published. In June 2017, the core of the OECD/G20 BEPS initiative was completed with the signature of the *Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting* (24 Nov. 2016), Treaties IBFD [hereinafter: the “MLI”]. The MLI is intended to amend existing treaty networks to bring these into line with the outcomes of the OECD/G20 BEPS initiative.
3. The digital economy is defined by the OECD as “the result of a transformative process brought by information and communication technology (ICT), which has made technologies cheaper, more powerful, and widely standardized, improving business processes and bolstering innovation across all sectors of the economy”. See OECD, *Action 1 Final Report 2015 – Addressing the Tax Challenges of the Digital Economy* Executive summary, p. 11 (OECD 2015), International Organizations' Documentation IBFD [hereinafter: the “Action 1 Final Report (2015)”], also available at [www.oecd.org/tax/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm](http://www.oecd.org/tax/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm) (accessed 16 June 2017).
4. See [www.oecd.org/going-digital](http://www.oecd.org/going-digital) (accessed 29 Nov. 2017).
5. X. Oberson, *How Taxing Robots Could Help Bridge Future Revenue Gaps* (OECD 2017), available at [www.oecd.org/employment/how-taxing-robots-could-help-bridge-future-revenue-gaps.htm](http://www.oecd.org/employment/how-taxing-robots-could-help-bridge-future-revenue-gaps.htm) (accessed 16 June 2017).

## 2. Tax Implications of the Digital Revolution

In order to better understand the effects of the Digital Revolution on the existing international tax system, it is worthwhile starting from its founding principles. The basis of the current international tax system can be summarized in the following triptych: (1) state sovereignty; (2) taxation; and (3) territory.<sup>[6]</sup> Sovereign states have, in principle, imposed taxes on the basis of the following two factors: (1) the connection of profit with a state's territory, i.e. the direct connecting factor or source; and/or (2) the connection of the beneficiary of the profit with the state's territory, i.e. the indirect connecting factor or residence.<sup>[7]</sup>

With regard to international taxation, sovereign states have concluded numerous bilateral tax treaties to regulate their taxing rights with a view to avoiding double taxation. As a rule, tax treaties establish different categories of income and, depending on the category, taxing rights are assigned by invoking either source or residence as a justification. It follows that connection with a territory, directly or indirectly, lies in the heart of the current international tax system.

The determination of the taxing jurisdiction also depends on the characterization of taxable income.

The question here is whether this framework is effective and sustainable in the Information Age.

As Digital Revolution primarily relates to new ways of doing business, i.e. the way of realizing taxable profit, the omens are not favourable. The Final Report on Action 1<sup>[8]</sup> lists a series of already widespread business models that exploit digital technology. A prominent example of this is participative networked platforms.<sup>[9]</sup> These platforms enable online social communication and information exchange among their users, thereby providing a framework for the creation and communication of content within the network. The content so transmitted belongs to the users and the platforms have no rights over the content. The value of the platforms lies with their users and is directly correlated to the user-network. However, the profit is principally derived from advertising the sale of products and services ancillary to the content exchanged among the users and/or donations. As such, the taxable profit is indirectly related to the value creation chain,<sup>[10]</sup> the latter being largely driven by the intervention of network effects.<sup>[11]</sup>

Another business model to be considered in the context of digitalization is sharing and/or collaborative economy.<sup>[12]</sup> In this case, the platform functions as an online marketplace, with the special characteristic that ownership is substituted with use and/or access. The owners of goods who are willing to license their use, possibly together with ancillary services, meet the potential short-term licensees of their goods and/or services online.

As a result, the platform gives rise to a three-partite relationship that can be exploited for profit or not. The three parties are:

- (1) a service provider, and/or proprietor of the relevant goods, who could be professional or an occasional peer;
- (2) a user of the goods and/or services; and
- (3) an intermediary, i.e. the platform operator.

The idea is not in itself new. What is new is its relevance in terms of the income realized, i.e. digitalization has maximized the potential of sharing economic models.<sup>[13]</sup> Once again, a major part of the value created by the platform relates to the network of the platform. The more the users of the platform, the more efficient and reliable the platform, the more new users it attracts, the more value its users can create. For instance, reviews and comments on the goods and services available on the platform provide a reliable point of reference for other users, thereby improving the efficiency and attractiveness of the platform.<sup>[14]</sup> With regard to the assumption of risks, the platform is

- 
6. Traditionally, fundamental element of the sovereignty of states has been their power to rule over specific territories (see J.L. Brierly, *The Law of Nations: An Introduction to the International Law of Peace* (Clarendon Press 1963). Taxation constitutes an indispensable revenue source for states to sustain sovereignty. In addition, from a practical viewpoint, tax must be effective, i.e. the taxing state must be in a position to enforce its claim to tax.
  7. W. Schön, *Persons and Territories: On the International Allocation of Taxing Rights*, Brit. Tax Rev. 6, pp. 554-562 (2010) and J. Beale, *A Treatise on the Conflict of Laws* vol. 1 (Baker, Voorhis & Co 1935).
  8. OECD, *Action 1 Final Report* (2015), *supra* n. 3.
  9. Participative networked platforms are usually divided into the following four categories: (1) social networking, for example, Facebook; (2) online games, for example, Online Chess; (3) participative community platforms, for example, Wikipedia; and (4) Internet publishing and broadcasting platforms, for example, YouTube. See OECD, *Participative Web and User-Created Content: Web 2.0, Wikis and Social Networking* (OECD 2007), available at [www.oecd.org/sti/ieconomy/participativewebanduser-createdcontentweb20wikisandsocialnetworking.htm](http://www.oecd.org/sti/ieconomy/participativewebanduser-createdcontentweb20wikisandsocialnetworking.htm) (accessed 19 June 2017) and *The Economic and Social Role of Internet Intermediaries* (OECD 2010), available at [www.oecd.org/internet/ieconomy/44949023.pdf](http://www.oecd.org/internet/ieconomy/44949023.pdf) (accessed 19 June 2017).
  10. The term "value chain" is defined as a set of activities that an enterprise operating in a specific industry performs to deliver a valuable product or service for the market. See M. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (Simon and Schuster 1985).
  11. According to the OECD, network effects relate to the fact that the decisions of the users may have a direct effect on the benefits received by other users. See OECD, *Action 1 Final Report* (2015), *supra* n. 3, at para. 169.
  12. The European Commission defines the sharing and/or collaborative economy as "encompassing business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of products and services often provided by private individuals". See European Commission, Communication from the Commission to the European Parliament, the Council, the European Social and Economic Committee and the Committee of the Regions, A European Agenda for Collaborative Economy (COM (2016) 356 final) (June 2016), available at <http://ec.europa.eu/DocsRoom/documents/16881/attachments/2/translations> (accessed 19 June 2016). Typical examples of collaborative economy business models are Airbnb and BlaBlaCar.
  13. S. Shaheen, D. Sperling & C. Wagner, *A Short History of Car-Sharing in the 90s*, 5 J. World Transport Policy & Prac. 3 (1999), available at <http://innovativemobility.org/wp-content/uploads/2015/03/A-Short-History-of-Carsharing-in-the-90s.pdf> (accessed 30 Nov. 2017).
  14. The concept that lies behind consumer-to-consumer (C2C) e-commerce platforms, such as e-Bay, is similar. In these cases, users seek to sell and purchase goods, of which the platform never has possession and which are substantially irrelevant to its realization of profit.

immune in relation to the main risks inherent in the transactions performed. These risks are borne by the service providers themselves, who remain in possession of the goods.

The digital marketplace has also inspired a number of supportive online services. Online payment systems, online advertising and online consultation are an important part of the digital economy. These can resemble their physical versions, i.e. cash and/or credit card payment by way of electronic (e)-wallets, adverts, marketing and so on.

There is, however, an important distinction that must be noted. Online services can be provided from anywhere in the world to anywhere else in the world, regardless of the location of assets, personnel and recipients.<sup>[15]</sup> The same applies to cloud computing and application stores.<sup>[16]</sup> These are free from location and space restrictions, and exist everywhere and nowhere. But what is most challenging is their characterization for the purpose of allocating taxing rights. These stand in a grey area between the provision of services and the supply of goods.

Beyond the service sector, production is experiencing an even more profound revolution. It is becoming quasi home-made. By way of 3D or layered printing,<sup>[17]</sup> consumers can purchase licences, whether or not online, in respect of designs from manufacturers and build the desired product at home or, in the worst case, at a nearby specialized printing centre. The process uses the same concept as printing. The only difference is that materials are not limited to paper and several layers may be needed to arrive at the 3D result. With regard to such premises, the OECD insists that this involves the transformation of production and sales into licensing. This would imply materially different tax treatment.<sup>[18]</sup>

These ways of doing business in the Information Age result in certain basic conclusions that centre on the prevalence of intangibles over tangibles. The transfer of ownership is being changed into a licence to use, thereby effectively blurring the distinction between services and goods. Putting people and/or users in contact is becoming more valuable than directly satisfying people's needs.

The collection and analysis of data can give rise to significant value creation, thereby facilitating the optimization of business.<sup>[19]</sup> Manufacture is being freed from facilities, organization and qualified personnel. It can function, at least, equally well anywhere in the world as long as the design is correct. Materials are being dematerialized and Internet (i)-materials are more valuable than anything that is material. Value lies in the idea rather than in the object, thereby permitting the place of value creation to be anywhere, assuming, of course, that there is a screen available.

In such circumstances, to respond to the question set in the introductory text to this article, it appears that a system dependent on physical presence is trying, in vain, to tax an economy free from physical constraints, which celebrates and embraces the virtual and untouchable. This reminds the author of the story of the great Persian King, Xerxes, who ordered the sea, the Hellespont, to be whipped 300 times as punishment for defying him.<sup>[20]</sup> Such a system is, therefore, condemned to failure. Something else is required, i.e. something that respects intangibility, without deprecating tangibility, and draws on this.

### 3. Taxing the Digital Economy

The inconsistency between the existing international tax system and the business models of the digital economy raises reasonable doubts as to the proper tax treatment of the latter. The effective application of current tax laws is open to serious questioning, tax disputes increase and optimal resource allocation is undermined. At the same time, income from digital structures keeps on multiplying.<sup>[21]</sup> Legislators worldwide are, therefore, intensifying their efforts to identify the proper tax rules and tax collection systems. As a result, a series of measures has been introduced, albeit at national level.

In this context, part of the digital economy has been addressed in several countries by way of extension of the VAT or equivalent systems.<sup>[22]</sup> Norway has led the way by introducing "VAT on E-Services" (VOES) in 2011.<sup>[23]</sup> The European Union followed in 2013<sup>[24]</sup> by expanding

- 
15. Typical value chain analysis to determine the place and process of value creation entails the weighing the functions performed, together with the assets used, the risks assumed and the people involved. See TPA Global, *Value Chain Analysis: The BEPS Generation of Functional Analysis*, available at [www.tpa-global.com/files/streamfile26318](http://www.tpa-global.com/files/streamfile26318) (accessed 21 June 2017).
  16. According to the OECD, "application stores typically take the form of central retail platforms, accessible through the consumer's device, through which the consumer can browse, view information and reviews, purchase and automatically download and install the application on his device". See OECD, *Action 1 Final Report* (2015), *supra* n. 3, at para. 130.
  17. M. Taufik & P. Jain, *Role of Build Orientation in Layered Manufacturing: A Review*, 27 *Intl. J. Mfg. Tech. & Mgt.* 1-3 (2016).
  18. OECD, *Action 1 Final Report* (2015), *supra* n. 3, at para. 271.
  19. If the potential of data to create value is currently increasingly acknowledged, the situation was different only a few years ago when the collection of data was deemed to be low value adding activity. See European Commission, *Report of the EU High Level Expert Group on Taxation of the Digital Economy*, May 2014 and M. Olbert, *International Taxation in the Digital Economy: Challenge Accepted?*, U. Mannheim (Aug. 2016).
  20. According to Herodotus, Xerxes's first attempt to bridge the Hellespont failed due to a storm. In retaliation, he ordered the sea to be whipped and fetters to be thrown into the water. See Herodotus, *History of Herodotus* (450 a.C.).
  21. Cloud computing alone is expected to result in market sales of USD 241 billion by 2020. See O. Mazur, *Taxing the Cloud*, 103 *Cal. L. Rev.* 1 (Jan. 2015).
  22. Such measure is also endorsed in OECD, *International VAT/GST Guidelines* (OECD 2015), International Organizations' Documentation IBFD, also available at [www.oecd.org/ctp/consumption/international-vat-gst-guidelines.pdf](http://www.oecd.org/ctp/consumption/international-vat-gst-guidelines.pdf) (accessed 21 June 2017).
  23. See <http://www.skatteetaten.no/en/voesnorway/>.
  24. Council Implementing Regulation (EU) No. 1042/2013 of 7 October 2013 amending Implementing Regulation (EU) No. 282/2011 as regards the place of supply of services, OJ L 284 (2013), EU Law IBFD, also available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1042&from=EN> (accessed 20 June 2017).

the scope of VAT to broadcasting and e-services and telecommunications.<sup>[25]</sup> Many other countries, such as India, Japan, New Zealand, Russia, South Africa and South Korea, have adopted similar actions and policies, while others, for example, Australia, are in the process of introducing legislation to the same effect.

The extension of VAT systems to e-transactions is intended to ensure equity between domestic and foreign suppliers, taking into account the fact that the former are subject to VAT under domestic law. It also draws on the fundamental principle underpinning VAT as consumption tax, i.e. that the place of consumption is entitled to the tax revenue from such activities. The basic criterion with regard to the application of the rules is the location of the consumer, i.e. the destination principle, which must be evidenced by the provider. On this premise and under certain conditions,<sup>[26]</sup> foreign suppliers are required to register in the country where their consumers reside and fulfil VAT obligations as if they were domestic. The scope of the rules is broad with regard to the e-services covered, including the supply of a website, software, images, text, databases, music, films, games, distant education, etc. At the same time, however, this scope is narrow and, in principle, limited to business-to-consumer (B2C) transactions.<sup>[27]</sup>

While the practice of expansion of national VAT systems to encompass e-services is gaining ground, the inherent deficiencies are becoming increasingly evident. In particular, such systems impose VAT collection obligations either: (1) on the resident consumer; or (2) on the non-resident provider.

The first scenario has practical difficulties with regard to the ability of consumers to effectively collect and remit VAT, thereby raising proportionality concerns as to the administrative burden charged on such persons. Such a system can also be challenged from the perspective of fair competition, as the related burden could be held to encourage consumers purchase from domestic providers.

The second scenario is also not flawless. Non-resident providers must register with the jurisdiction of the consumer to declare and remit VAT. It follows that VAT payments are largely dependent on own compliance. In addition, should such a requirement be effectively implemented, non-resident providers would most probably be discouraged from pursuing such an activity given the diversity of VAT and equivalent systems worldwide.

The story of the taxation of the digital economy in the United States started from a quite different concept. In 1998, restrictions to the right of the states to tax the Internet were introduced by the Internet Tax Freedom Act.<sup>[28]</sup> A few years earlier in 1992, the US Supreme Court (USSC) had demanded evidence of some physical presence of the provider in a specific state's territory to justify a connection with that state and permit the application of sales tax.<sup>[29]</sup> This law and case law did not, however, exclude application of sales tax<sup>[30]</sup> to e-commerce transactions, where some connection with the taxing state could be indicated, even through an agent or logistics activities.<sup>[31]</sup> Consequently, in 2008, New York passed the "Amazon Tax Law", thereby opening the way for a number of other states to do as well.<sup>[32]</sup> Amazon and similar businesses have, therefore, started collecting taxes for all transactions with US resident consumers.<sup>[33]</sup>

Local US legislators also seek to tax income from e-services. Their ally in this is the fact that physical presence is not an established prerequisite for the application of income tax<sup>[34]</sup> and a "significant economic presence" has been deemed to be a sufficiently adequate connection between a transaction and a given territory. Consequently, in 2015, Chicago introduced the "Cloud Tax"<sup>[35]</sup> to address income from services in relation to databases, i.e. non-possessory computer leases, and streaming, i.e. electronically delivered entertainment.<sup>[36]</sup>

---

25. A commonly accepted definition of e-services has been proposed by Rowly as follows: "deeds, efforts or performances whose delivery is mediated by information technology. Such e-service includes the service element of e-tailing, customer support, and service delivery". See J. Rowley, *An Analysis of the E-service Literature: Towards a Research Agenda*, 16 *Internet Research* 3 (2006).

26. The conditions for the application of VAT are to be found in the relevant national tax law. By way of an example, some jurisdictions, such as Japan and South Africa, set a threshold amount of income that must be exceeded by the supplier to be considered as falling within the scope of their VAT legislation.

27. Business-to-business (B2B) transactions could also fall within the scope of the rules, depending on the jurisdiction. This is the case, for example, in South Africa.

28. US: Internet Tax Freedom Act of 1998, H.R. 3529, 105th Cong. Part I (1998). See S. Lusch, *State Taxation of Cloud Computing*, 29 *Santa Clara High Tech. L. J.* 2 (2013).

29. US: USSC, 26 May 1992, *Quill Corp. v. North Dakota*, 504 US (298) (1992). Nevertheless according to the existing precedent (US: USSC, 21 Mar. 1960, *Scripto Inc. v. Carson*, 362 U.S. 207 (1960)), the physical presence requirement would be regarded as satisfied where the sale was effected by an appointed agent acting within the territory in question. See Lusch, *supra* n. 28.

30. Sales taxes can be regarded as applying in effectively a similar way to VAT, in that both types of tax result in the taxation of the providers of sales of goods and services to end consumers. Although, in practice, leading to the same result, sales taxes function in a very different way to VAT. Specifically, sales taxes apply only to the ultimate transaction with the end consumer, while VAT applies to all intermediate sales, including B2B transaction, but providing an appropriate tax credit at each stage, i.e. VAT is a "cascade tax" that taxes value creation.

31. A distinction must be made between e-services and online sales, as online sales require some form of physical delivery, while, for web provides, only a means of communication is necessary.

32. NY: Tax Law para. 1101(b)(8)(vi) (McKinney 2012). Other states that adopted the same approach include Arkansas, California, Connecticut, Illinois, North Carolina and Rhode Island. See J. Henchman, *California Becomes Seventh State to Adopt Amazon Tax on Out-of-State Online Sellers*, Tax Fund (July 2011).

33. D. Mercado, *The holiday is over: Amazon will collect sales taxes nationwide on April 1*, CNBC (24 Mar. 2017), available at [www.cnbc.com/2017/03/24/the-holiday-is-over-amazon-will-collect-sales-taxes-nationwide-on-april-1.html](http://www.cnbc.com/2017/03/24/the-holiday-is-over-amazon-will-collect-sales-taxes-nationwide-on-april-1.html) (accessed 20 June 2017). In this context, it should be noted that, in 2015, the US: Digital Goods and Services Tax Fairness Act of 2015, 114th Congress (2015-2016) was introduced for the third time into the US Senate. This proposes limitations on the right of states to impose multiple or discriminatory taxes on the sale or the use of digital goods or services delivered or transferred electronically to customers. Exemptions are suggested, although only indicatively, in respect of audio and video programming services, Internet access services and telecommunications services. See section 851 of the Digital Goods and Services Tax Fairness Act.

34. See the decision of the Supreme Court of Iowa, U.S. (Iowa), *KFC Corp. v. Iowa Department of Revenue*, 792 NW 2nd, 308, 314 (2010) et al. See also Lusch, *supra* n. 28.

35. Chi: Municipal Code of Chicago, Chapters 3 – 32 (City of Chicago's Personal Property Lease Transaction Tax).

36. R. Brandom, *Chicago's 'cloud tax' makes Netflix and other streaming services more expensive*, The Verge (July 2015), available at [www.theverge.com/2015/7/1/8876817/chicago-cloud-tax-online-streaming-sales-netflix-spotify](http://www.theverge.com/2015/7/1/8876817/chicago-cloud-tax-online-streaming-sales-netflix-spotify) (accessed 20 June 2017).



Remarkably, a similar concept proposed in Boston a couple of years earlier was quickly revoked based on the argument of lack of clarity and uncertainty.<sup>[37]</sup>

Equally, concerns on the effective taxation of digital profit have inspired legislative action in Italy and the United Kingdom. The United Kingdom's diverted profit tax (DPT)<sup>[38]</sup> primarily applies to foreign companies effectively providing goods or services in the United Kingdom, regardless of the way this is effected, or to companies with functions in the United Kingdom. According to official statements, the target of the UK legislator is digital economy structures.<sup>[39]</sup> One year earlier, in 2014, the Italian legislator proceeded with a less radical, but still important tax measure. Specifically, the Italian transfer pricing rules were supplemented by provisions aimed at entities involved in online advertising in setting special standards for the application of the arm's length principle to such entities.<sup>[40]</sup>

It is evident that legislators are alarmed and are searching for the right framework to tax the digital economy in their jurisdiction. Several national and, therefore, by definition, unilateral actions have so far been taken. These mainly build on existing tax concepts, such as income tax and VAT, which have been expanded to cover the new ways of doing business. Still, the most important questions are of an international nature. These questions relate to the allocation of taxing powers among jurisdictions with regard to profit derived from the digital economy. In fact, the questions are global, as digitalization effectively eliminates borders and unifies territories. The answers must, therefore, also be global.

## 4. The Way Forward Internationally

The demanding mission to adapt international mechanisms to tax the digital economy is largely led by the OECD. Amidst a number of ongoing initiatives, the Final Report on Action 1<sup>[41]</sup> included, to date, the most targeted examination of proposals on taxation in the Information Age. However, as noted in [section 1.](#), the final outcome is still anticipated. Apart from the OECD, academic literature is also struggling to find the right path to adopt in the future, in mainly advancing the OECD's suggestions and constructively criticizing these.

Among the four solutions included in the Final Report on Action 1, only one, i.e. the proposed amendments to the concept of a permanent establishment (PE), was regarded as being recommendable and was promoted in the context of Action 7,<sup>[42]</sup> together with the "Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting" (the "MLI").<sup>[43]</sup> The various amendments are intended to adjust the definition of a PE so as to be able to deal with evolutionary trends of the economy, i.e. taking into account that what used to be "support" activities may rise to the level of core business due to information technology. However, significant doubts have been raised regarding the potential effect of these changes in a purely digital context. Specifically, it has been emphasized that some physical presence, even if only referred to as "support", "auxiliary" or "ancillary", is still required by the rules for the qualification of a PE.<sup>[44]</sup> Digitalization, in contrast, concerns lack of any tangible presence whatsoever, i.e. books are downloaded, and not just ordered online.

The other three proposals were regarded as not being applicable at the current stage of development. The first revisits the nexus approach, in suggesting a focus on an entity's significant economic presence in a given jurisdiction.<sup>[45]</sup> The underlying principle is that physical presence is not necessary for an entity to derive economic benefits from such jurisdiction. The rationale for the proposal is to permit the fair allocation of taxing rights among jurisdictions, taking into account the economy and/or economies that contribute to profit, irrespective of any material connections.

Consequently, taxing power would be justified on the basis of a combination of indicators that provide evidence for a significant economic presence. These could include: (1) the amount of profit derived from transactions within a jurisdiction, i.e. revenue-related indicators; (2) possession of local domain name or local currency payment options, i.e. digital indicators; and (3) consumer-related indicators, for

---

37. W. Flanagan, *How Boston Defeated its Version of the Cloud Tax?*, ChicagoInno (Sept. 2015), available at <http://chicagoinno.streetwise.co/2015/09/16/chicago-cloud-tax-and-how-boston-defeated-its-tech-tax/> (accessed 20 June 2017).

38. UK: Finance Act 2015.

39. HM Revenue & Customs (HMRC), *Government ramps up efforts to tackle digital multinational tax risks*, Press Release (25 Mar. 2015), available at [www.gov.uk/government/news/government-ramps-up-efforts-to-tackle-digital-multinational-tax-risks](http://www.gov.uk/government/news/government-ramps-up-efforts-to-tackle-digital-multinational-tax-risks) (accessed 22 June 2017).

40. IT: Legge n.147/27.12.2013 (Legge di Stabilità 2014 – 2014 Stability Law).

41. OECD, *Action 1 Final Report* (2015), *supra* n. 3.

42. OECD, *Action 7 Final Report 2015 – Preventing the Artificial Avoidance of Permanent Establishment Status* (OECD 2015), International Organizations' Documentation IBFD, also available at [www.keepeek.com/Digital-Asset-Management/oecd/taxation/preventing-the-artificial-avoidance-of-permanent-establishment-status-action-7-2015-final-report\\_9789264241220-en#.WUqBs-uLSUk](http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/preventing-the-artificial-avoidance-of-permanent-establishment-status-action-7-2015-final-report_9789264241220-en#.WUqBs-uLSUk) (accessed 21 June 2017).

43. The MLI is a multilateral convention envisaged in Action 15 of the OECD/G20 BEPS initiative to amend the existing international treaty networks in line with certain outcomes of the initiative. The provisions of the MLI were agreed by the Inclusive Framework, comprising more than 100 jurisdictions. The MLI was initially signed on 7 June 2017 by 67 jurisdictions. For further information on the MLI, see P. Valente, *The Release of the Multilateral Instrument*, 45 Intertax 3 (2017).

44. D.W. Blum, *Permanent Establishments and Action 1 on the Digital Economy of the OECD Base Erosion and Profit Shifting Initiative – The Nexus Criterion Redefined?*, 69 Bull. Intl. Taxn. 6/7 (2015), Journals IBFD and P. Hongler & P. Pistone, *Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy* (2015), White Papers IBFD.

45. To the contrary, currently, nexus is considered to be sufficiently indicated by a substantial activity performed in the jurisdiction. See OECD, *Action 5 Final Report 2015 – Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance* (OECD 2015), International Organizations' Documentation IBFD, also available at [www.keepeek.com/Digital-Asset-Management/oecd/taxation/countering-harmful-tax-practices-more-effectively-taking-into-account-transparency-and-substance\\_9789264218970-en#.WUqGu-uLSUk#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/countering-harmful-tax-practices-more-effectively-taking-into-account-transparency-and-substance_9789264218970-en#.WUqGu-uLSUk#page1) (accessed 21 June 2017).

example, data collected or contracts concluded within the jurisdiction. Should such an approach be adopted, the next question to be answered would focus on transfer pricing, i.e. what value is subject to the taxing power determined by the new connecting links.<sup>[46]</sup>

Together with these OECD proposals, tax law literature has proposed a concept of a digital PE.<sup>[47]</sup> The idea is that a PE can exist in all jurisdictions where a non-resident entity performs activities on the basis of one or more digital economy business models and exceeds certain thresholds. The following two thresholds are envisaged: (1) the width of the monthly user base; and (2) the revenue realized. In other words, a presence is significant enough to qualify as PE where set limits in relation to these factors are satisfied. Such a concept of a PE would be free from tangible and/or physical connections, independent of assets, personnel and risks, and, therefore, suitable for a digital environment. The OECD has considered one further step in relation to these two schemes, i.e. the allocation of business profit on the basis of the profit split method, taking into account the value added by the market.

Another solution considered by the OECD is the application of a withholding tax on online transactions by the jurisdiction of the consumer and/or payer. As a result, some taxation in respect of e-transactions would be secured on the basis of the destination principle noted in [section 3](#). However, concerns have been raised in this case regarding the practicalities of implementation<sup>[48]</sup> and especially the fact that a withholding tax would apply to gross income, thereby disregarding the expenses of taxpayers.<sup>[49]</sup> A withholding tax would also not adequately address, in itself, the problem of taxation of the digital economy. It would, therefore, require complementary mechanisms. In more detail, a withholding tax on the payment and/or consumption would risk undermining the taxing rights of jurisdictions other than that of the payer and/or consumer, which may well have contributed to the income of taxpayers, by way of data collection and network effects.

Literature has taken this concept further, in envisaging a worldwide withholding tax as a mechanism to counter base erosion and profits shifting in the Information Age. In essence, it has been proposed that an international withholding tax would apply to all business-to-business (B2B) cross-border transactions.<sup>[50]</sup> The worldwide scope of the withholding tax would then facilitate resolution of other concerns, such as competitive disadvantages among providers. Similarly, the application to B2B transactions would mean that only business would be required to collect and remit the applicable tax, which, being familiar with the relevant procedures, would encounter less practical difficulties than consumers. However, the insurmountable objection to the proposal appears to be its prerequisite of a globally agreed withholding tax.

Finally, the option of an equalization levy is considered in the Final Report on Action 1.<sup>[51]</sup> This would apply in a similar way as VAT to non-resident service providers, subject to the condition that, overall, such providers would have a significant presence in a given jurisdiction. Depending on the criteria used to define a “significant presence”, such a mechanism could permit the fair allocation of taxing rights among jurisdictions by way of the reasonable evaluation of data, the amount of users or other relevant criteria. Nevertheless, there are other debatable issues that must be clarified. By way of an example, such a levy would apply to gross payments, thereby disadvantaging non-residents compared to resident providers.<sup>[52]</sup>

## 5. Further Considerations

None of the mechanisms considered in [sections 2](#) to [4](#), has been fully developed and implemented. With the exception of the limited amendments to the concept of a PE, the OECD has not proceeded with any definitive recommendations, in invoking the pending questions arising in connection with each and every alternative. What is surprising is that individual jurisdictions could be encouraged to draw on these proposals by way of unilateral legislative actions. However, uncoordinated action at a national level entails the serious risk of undermining the effectiveness of the international tax system. Digital business raises worldwide questions that no single jurisdiction can answer. In other words, the digital economy should either be dealt with as a single unity or not at all.

That said, the following seven questions are still pending:

- 
46. In this respect, the OECD considered: (1) the adjustment of the existing rules, for example, on value chain analysis based on the functions performed, the assets used, the risks assumed and the people involved; (2) a fractional apportionment of the relevant tax base on the basis of predefined formulas or allocation keys; and (3) deemed profit methods. See OECD, *Action 1 Final Report* (2015), *supra* n. 3, at chap. 7.6.2.
  47. Hongler & Pistone, *supra* n. 44. A concept of a virtual PE, drawing on the idea of a significant economic presence, has also been endorsed by the European Commission. See European Commission, Communication from the Commission to the European Parliament and the Council, A Fair and Efficient Tax System in the European Union for the Digital Single Market, COM(2017) 547 final (21 Sept. 2017), EU Law IBFD.
  48. Practical difficulties, for example, relate to the liability of consumers to withhold and remit the withholding tax. They would clearly lack the necessary infrastructure and know-how. The interposition of specialized intermediaries could be an option. The effectiveness of such systems would, however, still appear to be arguable.
  49. Such a system would risk the creation of competitive disadvantages between domestic and foreign suppliers and service providers in the same jurisdiction.
  50. As the rationale for this proposal would be to counter base erosion, such a system would not apply to B2C and C2C transactions that could not be regarded as base eroding. See A. Baez & Y. Brauner, *Withholding Taxes in the Service of BEPS Action 1: Address the Tax Challenges of the Digital Economy* (2015), White Papers IBFD and Olbert, *supra* n. 19.
  51. OECD, *Action 1 Final Report* (2015), *supra* n. 3.
  52. Other suggestions that have been considered so far to address the challenges of the digital economy include, for example, the “Bit Tax”. The conception of the Bit Tax attributed to Cordell, who first raised it in a speech at Harvard Law School, International Tax Programme in 2017. Cordell conceived the Bit Tax as “tax on each digital bit of information flowing in global networks”. See A. Cordell, *Taxing the Internet: The Proposal for a Bit Tax*, Speech to the International Tax Programme, Harvard L. Sch. (Feb. 1997). In this respect, it should be noted that 20 years later, in 2017, at the G7 summit in Italy, a web tax was one of the main topics discussed. See G. Trovati, *G7 Economy Ministers in Bari to take a first step towards a global “web tax”*, Italy Europe 24 (13 May 2017), available at [www.italy24.ilssole24ore.com/art/government-policies/2017-05-12/g7-meeting-bari-padoan-111938.php?uuid=AELBSBLB](http://www.italy24.ilssole24ore.com/art/government-policies/2017-05-12/g7-meeting-bari-padoan-111938.php?uuid=AELBSBLB) (accessed 22 June 2017).

- (1) On what conditions can a jurisdiction tax income where it considers that its economy has effectively contributed to value creation by the taxpayer in the total absence of any physical presence? Could, for example, the remote programming of a robot constitute a sufficiently connective link?
- (2) Is the collection of value adding data from a specific jurisdiction a sufficient link for that jurisdiction to claim taxing rights on the value so created? What volume of data should be collected? Is there any difference if the collection of data is agreed to by the consumer?
- (3) Which jurisdiction has what power to tax the value created from the analysis of data, i.e. (a) the jurisdiction of the entity benefiting from the results extracted from the data analysis; (b) the jurisdiction where the collection and/or analysis of data takes place, regardless of how remote; (c) the jurisdiction(s) of the persons whose data is collected and analysed, taking into account ownership of the data; or (d) the jurisdiction to which the data relates?
- (4) How should the following be evaluated: (a) raw data; (b) analysed data; (c) the extraction of conclusions; and (d) how should the value arising therefrom be apportioned between and among jurisdictions?
- (5) How should transactions taking place exclusively between consumers, i.e. C2C transactions, and the income so arising be characterized for the allocation of taxing rights?
- (6) Should the avoidance of a loss be considered to be taxable profit? Should consumers and/or users be taxed in respect of the deemed benefits derived from the transmission of data owned?
- (7) Can mere online surfing be considered to be value adding and, therefore, taxable?

## 6. Conclusions

Overall, the world is experiencing a new reality, or, rather, virtuality.<sup>[53]</sup> As with all new-borns, it has raised, and keeps on raising, numerous questions, which demand still inconceivable, answers. International taxation must find these answers and has already set its course thereto, both at a national and an international level. However, it is still doubtful as to whether the routes selected are the best ones.

To date, in summary the outcomes are:

- (1) unilaterally drafted legislation<sup>[54]</sup> that seeks to address the digital challenge within national borders, principally drawing on existing concepts;
- (2) an uncomfortable tax law literature that is just beginning to engage in the debate;
- (3) a series of incomplete and, therefore, not operational international proposals regarding potential solutions; and
- (4) questions that are multiplying together with income that cannot be taxed consistently under the current rules.

Further progress needs to be made and is preconditioned on a deep understanding of the digital world. After all, no question can be answered if not properly understood. To this end, it is necessary to comprehend how virtual value is generated and how it can be translated into real taxable profit. Basic notions that must be considered and analysed in this context are the value of the consumer and the market in themselves, i.e. the “demand side” of the transaction, the value of the data, including the mere collection of data, the value of certain intangibles, such as software, and its development in the course of its use, and the, even if slight, potential contribution of people functions in the digital value creation chain.<sup>[55]</sup> This analysis also leads to the conclusion that lack of specific transfer pricing guidance is among the most important impediments to the effective taxation of digital economy. It, therefore, follows that it is necessary to revisit the existing rules with a view to accommodating the particular features of the digital world.

Digital technology has effected revolution and demands a revolution for taxation to be able to respond to this adequately. Consequently, taxation cannot cling to its old ways. It is high time, if it is not too late already, for international taxation to be reborn. In this regard, rebirth is meant as a radical change, a change of principles and liberation from links to territories that no longer exist in the virtual world. The digital economy is freeing itself from assets and people functions, and it is becoming creative, interactive and unlimited. Taxation must adopt the same course of action. In order to be able to do so, it must become flexible, innovative, global, and capable of looking beyond and transcending known tenets, rules and systems. In this respect, international cooperation to regenerate effective taxation would be a good place to start.

53. This term is used to indicate the evolving reality in the digital universe of screen friends, screen games, screen meetings and screen travelling, i.e. in a different sense than it was initially introduced by Deleuze. See G. Deleuze *Différence et répétition (Difference and Repetition)* (PUF 1968).

54. Although unilateralism is the principal trend, there have been some exceptional efforts at international level, such as the EU legislation on VAT.

55. In this respect, it has been suggested that value creation should be conceived in relation to digital content creation. See R. Amit & C. Zott, *Creating Value Through Business Model Innovation*, 53 MIT Sloan Mgt. Rev. 3, pp. 41-49 (Spring 2012).