



An Overview of Tax Challenges of Digital Economy

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Abstract

The digital economy drives growth, innovation, and competitiveness. Rapid technological advancement contributes to economic and social transformations. Digitalization has produced entirely new business models and poses substantial problems for the current taxation system. An evaluation of the business models of Amazon and Google indicates that such a differentiated approach is required for both the proposed alternatives, i.e., a virtual PE or an equalisation tax. This paper presents the concept of the digital economy, features of the digital economy, business modes of the digital economy, and identifies deficiencies in the existing structure of international taxation as it relates to taxation of the digital economy. The paper further assesses nexus, data, and characterization as major components of the tax challenges of the digital economy, as well as providing mechanisms to address the emerging challenges in the present international tax system. From this study, it can be inferred that there needs to be global consensus that digital enterprises are detrimental to the tax system and that something needs to be done about it.

keywords: *Digital Economy; Tax, Permanent Establishment (PE); Digital Presence*

Introduction

The digital economy drives growth, innovation, and competitiveness. Rapid technological advancement contributes to economic and social transformations. Technology can combine and use previously unavailable services (Uktamova, 2021). The expansion of the digital economy is largely attributable to the declining costs of information and communication technology (ICT) and a continuous drive for innovation. The proliferation of ICT devices such as laptops, smart mobile phones, and tablets, as well as telecommunications networks such as the worldwide web (www), demonstrates that digital items are becoming a larger part of daily activities. (Hadzhieva, 2016). Digitalization has produced entirely new business models and poses substantial problems for the current taxation system. Consequently, there is a considerable discussion on both the political and technological levels regarding how tax systems should adapt to these trends. From the proposals of the OECD, the European Union has pledged to address this issue. An evaluation of the business models of Amazon and Google indicates that such a differentiated approach is required for both the proposed alternatives, i.e., a virtual PE or an equalisation tax (Kofler, Mayr & Schlager, 2017).

The (Ministry of Finance, 2016) examined tax issues arising from new digital business models, including significant economic presence regulations in prevailing tax treaties and tax laws, the definition of digital facilities and services, and the valuation of data and user contributions to digital firm profits. These new business models raise tax difficulties in nexus, data classification, and user contribution. International organizations highlighted these difficulties, leading to their inclusion in the BEPS Project. The OECD

and the European Commission focus on the digital economy because several significant digital corporations have been cited as tax optimizers. Certain elements of the digital economy (size without mass, user contribution, etc.) undermined permanent establishment and the arm's length concept, requiring modifications (Pellefigue, 2019). In many countries, BEPS in the digital sector aims to avoid Permanent Establishment status, withholding tax, and income tax (Hadzhieva, 2016). Due to the challenges in the determination of significant economic presence, the popular tax avoidance practices in digital companies include avoiding taxable physical presence in the source country, avoiding withholding tax, and decreasing tax in numerous countries (Uktamova, 2021).

Review of Literature

Concept of digital economy

A digital economy is the capability of a firm to communicate online, which encourages it to conduct business electronically and operate an online service. Promotion, purchases, and payment are conducted electronically to eliminate human intervention. "The Digital Economy is defined as the part of economic output derived solely or primarily from digital technologies (ICT) with a business model based on digital goods or services" (World Bank Group, 2019).

The digital economy includes participatory networked platforms, online advertising, online trading platforms, cloud computing, app stores, ride-hailing apps, online payment systems, etc. Amazon, Alibaba, AliExpress, Netflix, PayPal, LinkedIn, Twitter, and Facebook are digital service providers (Aduloju, 2022).

Digital interconnection can transform economic opportunity and inclusive growth when directly associated with improved digital skills and literacy, digital ID systems, digital payments and other financial services, and digital support for start-ups and small businesses.

When closely associated with enhanced digital capabilities and skills, digital identification systems, digital support services, digital online payments and other financial services for new and small companies, digital connectivity may revolutionise economic potential and inclusive growth. In a digital economy, the incremental cost of supplying a new product or service may become negligible, especially with online service delivery. The digital economy fosters inclusive growth, employment, and productivity (World Bank Group, 2019).

Features of the digital economy

The BEPS Report on Action 1 outlines the following features of the digital economy:

Important aspects of the digital economy. They consist of:

1. Mobility, as it relates to
 - (i) the intangible resources upon which the digital economy is dependent largely,
 - (ii) customers,
 - (iii) business functions as a result of a diminishing demand for local employees to accomplish certain activities and in numerous circumstances the flexibility to select the location of servers and additional resources.
2. Reliance on data, notably the utilisation of so-called "big data"
3. Network effects, defined in terms of user participation, integration, and synergies
4. Use of multi-sided business models in which the market's two sides can be in different positions jurisdictions.
5. Tendency toward monopoly or oligopoly in some company strategies that strongly rely on centralised control in network effects.
6. Volatility due to minimal entry barriers and extremely rapidly developing technology (Ministry of Finance, 2016)

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International taxation has been complicated by the digital economy. The digital economy and company models have tax implications. Examples include multi-sided business structures, portability and dependability, monopoly and oligopoly, data, network effects, and volatility are some of the topics covered. These characteristics make it difficult to establish a commercial and territorial connection between digital economies and the state of origin in order to tax business income. This expansion of the digital economy has highlighted governments' concerns regarding the tax planning practises of multinational corporations, who aim to evade or minimise tax obligations by exploiting flaws in our current taxation structure. A non-resident entity in its home state can provide services to consumers in the source state's territory, receive compensation, create income, and generate profits without incurring tax liability in the source state.

Models of digital economy

The following models emphasize peculiar parts of the digital economy as well as represent the characteristics.

- The first model, which is influenced by social networking platforms, coordination, addresses network externalities, and competitiveness in the presence of taxation.
- The second model, which is centred on two-sided markets, explores a platform that facilitates between advertisers and users and necessitates a comparative review of taxation on both sides of the market.
- The third model focuses on the quantity of data exploitation and collection and examines the impact of various taxes on the amount of data exploitation.
- The final two models explore how the development of electronic commerce affects the fiscal competition between governments that determine sales tax brackets and how the elimination of geographical boundaries affects economic growth. One model focuses on trading platforms that do not discriminate against consumers based on their geographical origin, such as eBay. The second model takes into consideration substitution effects on electronic commerce and international shopping (Ministry of Finance, 2016).

Discussion:

Taxation of digital economy

The international taxation laws governing the transfer of taxing rights under Double Tax Avoidance The majority of agreements to avoid double taxation are based on the suggestions of four economists appointed by the League of Nations in the 1920s, decades before such significant improvements were foreseen. Although they acknowledged that both countries had the jurisdiction to tax such income, they pushed for a separation of taxing rights between the Country of Residence and the Country of Origin. As a result of their analysis, the current rules establish a threshold for the taxation of business income in the form of a "permanent establishment," which is generally thought of as the physical presence of a business entity, and which distinguishes businesses with a substantial economic presence in a tax jurisdiction from those with only occasional economic participation. Attempts to tax a business that has a small economic presence in a region may result in regulatory and administration costs that are disproportionate to the tax revenues collected.

While the physical presence threshold optimised compliance costs for firms that existed when it was conceptualised, its relevance is undermined by digital enterprises, prompting a need to amend international tax rules to adopt them for the new business models of the digital economy. This difficulty is compounded by challenges linked to characterization of some digital economy earnings, defining criteria for fairly assigning such income, and valuing user contributions and data in multidimensional business structures. New internet company methods have caused tax issues (Ministry of Finance, 2016).

The PE method serves as a threshold that, by analysing a foreign enterprise's economic presence in a certain state using objective criteria, determines when it can be regarded as sufficiently integrated into

that state's economy to be taxed. There is a relationship between the current PE threshold and the economic allegiance concerns established more than eighty years ago. The PE threshold "has a long history and reflects the international consensus that, as a general rule, until an enterprise of one state has a permanent establishment in another state, it should not be regarded as participating in the economic life of that other state to such an extent that the other state should have taxing rights. This factor ensures that a source country with tax jurisdiction has jurisdiction over a non-resident corporation by requiring a sufficient level of economic presence. Paragraph 36 of the BEPS Report on Action 1(2015).

Deficiencies in the existing structure of international taxation

Non-resident businesses can only be taxed if they have a permanent presence. Digital economies pose BEPS issues in international taxation for two reasons. First, digital economies' unique business structures and characteristics make it easy for them to qualify for exceptions to the PE rule, artificially bypassing it by employing loopholes. Second, technological developments empower digital economies to conduct business with a source country without a PE. The digital economies exploited the warehouse and preparatory and auxiliary activity exemptions, and in the absence of any provision, the courts frequently felt powerless to impose taxes on the profits generated from e-commerce operations, which were limited to preparatory and auxiliary activities such as internet advertising of goods and services conducted through representatives in the source country. (Detailed Analysis of Significant Establishment Presence).

The digital economy raises tax difficulties for policymakers. Included are nexus, data, and general tax characterization. These concepts relate to defining tax jurisdiction, allocating value to free user data, and whether e-commerce transactions are royalty-free. Tax issues arise from digital nexus, data, and characterization. MNEs often use the exceptions in the OECD Model Tax Convention to avoid Permanent Establishment (PE) status, utilise tax incentives such as patent boxes for tax purposes rather than to promote R&D, engage in treaty shopping to shift taxable revenue to tax havens, or negotiate sweetheart deals with governments. These issues pose systemic difficulties regarding the current international tax framework's capacity to accommodate the business model changes of the digital economy and provide that profits are taxed in the jurisdiction where economic activity occurs, and value is generated. They have a significant impact and mostly involve taxing rights between nations. These difficulties bring into question the paradigm used to establish where economic activity and values are generated for tax purposes, based on an enterprise's roles, assets, and risks. When these impediments offer potential for double non-taxation due to the lack of nexus in the market country under existing rules and the lack of taxation in the income recipient and ultimate parent company's jurisdiction, they create BEPS difficulties in the form of stateless income. Digital trading complicates VAT collection (Olbert & Spengel, 2017; Sengupta, 2020; Hadzhieva, 2016).

Due to the difficulty in identifying the geographical source of income, multinational firms present tax authorities with distinct difficulties. A startling degree of complexity is added to tax compliance and administration by overlapping tax jurisdictions, which frequently employ different tax bases and procedures. In addition, they can create opportunities for multinational firms to exploit national tax systems against one another to reduce their global tax obligations. (Razin & Slemrod, 1992). Existing tax laws were not designed for the digital economy, so applying them to digital transactions is problematic. Consequently, while these transactions realise potential revenue for businesses and individuals that transact in the digital space, the enormous inflow and outflow do not tend to boost tax revenues for jurisdictions where transactions occur, primarily because service providers have no discernible physical presence in such jurisdictions (Aduloju, 2022).

Technological developments and the transformation to a digital economy entail direct and indirect tax effects. BEPS gives cross-border businesses an advantage over domestic ones. Any country that taxes corporations should be concerned. G20 leaders endorsed the "BEPS package" negotiated with OECD

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members to address BEPS issues (Sengupta, 2020). Due to the simplicity of conducting business online, firms rarely need to be present in the country of origin to deliver services. E-commerce, mobile operating systems, internet advertising, cloud services, participatory networked platforms, faster trading, and online payment services are all the result of a digitalization (ICT) transformation that has made technologies less expensive, more influential, and more widely standardised, thereby improving business processes and fostering innovation across all industries (Ministry of Finance, 2016; Jurišić & Kermek, 2011).

Digital or telecommunication networks replace physical proximity, allowing enterprises to engage in a jurisdiction's economic activities without a physical presence. This has facilitated the development of emerging business models that permit substantial engagement in a source country. Data-driven business models are evolving. Current and anticipated trends indicate that these digital companies' proportion in the global economy will continue to increase. Because they can serve foreign markets at low transaction costs, a few businesses are highly valuable around the world (Ministry of Finance, 2016).

Amazon, Facebook, Google, and other digital corporations have become part of human life and drive the economy. National and international tax law regimes provide obstacles for digital business strategies. Policymakers want fair and effective taxation measures (Kofler, Mayr & Schlager, 2017). The existing tax structure is deficient. It is determined by arbitrary national (residence vs. source) and income distinctions (active vs. passive). Intermittently, closing loopholes results in a more reliable system. The tax base should be determined by the geographic location of shareholders or consumers (Devereux & Vella, 2018).

However, the deficiency of a permanent establishment poses the greatest obstacle to taxing the digital economy; this refers to firms conducting business without a physical presence or office in the jurisdiction of operation. This strategy is bolstered by the adoption of business structures that prevent them from possessing actual assets in the jurisdictions in which they operate or in which they are eligible for taxation (Aduloju, 2022; Devereux *et al.*, 2020).

Tax challenges of digital economy

The OECD categorises tax challenges arising from the digital sector as follows:

1. Nexus

As technology has improved, businesses can operate remotely. Nexus concerns involve digital firms' capacity to conduct business in a given jurisdiction and have a considerable economic presence there without surpassing the threshold rules or criteria used to define a nexus between an enterprise and a taxation jurisdiction. Digital advancements and less physical presence pose questions about present standards (Prastowo, 2015).

The complexities digital firms face in business operations with business models unavailable in the distant past result in circumstances where users generate significant gains from a jurisdiction by using its people and resources and can make the argument not to establish a taxable nexus with that jurisdiction due to the constraints of the nexus rules in Model Tax Conventions and tax treaties drafted decades ago. The nexus issues provide a compelling argument for altering the laws, which are based on a physical presence criterion, to match how contemporary businesses function (Ministry of Finance, 2016). Companies with a presence in a specific jurisdiction are required to pay taxes. E-commerce eliminates the requirement for a company's physical presence to reach clients. (Hadzhieva, 2016).

This phenomenon breaches international tax law, notably with PEs. First, it is highly debatable whether the prerequisites for a dependent agent are fulfilled when contracts and customer relations are created by local employees but the final contract between clients and a foreign firm is reached remotely

(paragraphs 5 and 6 of article 6 of the OECD Model). Second, operations deemed preparatory or auxiliary in article 5 of the OECD Model are more critical to digital business models, hence prompting PE status (Olbert & Spengel, 2017).

The formation of new methods for determining when a digital firm is subject to tax in a source state depends on whether a digital presence exists. For this objective, revenue, number of active users, and digital presence were regarded as the criteria. If this surpassed a specific threshold, the corporation was taxed (Kofler, Mayr & Schlager, 2017).

2. Data

Data developed using end-user personal information is difficult to appraise. In new digital business models, such as cloud computing, which stores data and programmes externally and saves space on the consumer's device, the categorization of payments is problematic due to the introduction of new products and delivery methods. How to evaluate digital products and services and describe the data supply of a person or organisation in a transaction (Prastowo, 2015). Customer data has always been valuable, but it is questionable if present regulations appropriately value the large volumes acquired and used by digital enterprises. Understanding how collected data is commercialised as well as which functions are directly implicated Whether remote data gathering creates a taxable nexus depends on functions performed, assets utilised, and risks assumed to reflect the value chain of data-driven firms (Olbert & Spengel, 2017).

3. Characterisation

The characterization of digital business income is a contested and essential issue. Characterization difficulties are crucial because various types of income have different tax thresholds and tax rates in their source jurisdictions. Moreover, it is highly essential because different countries interpret and apply the rules inconsistently. These distinctions relate to describing income as "royalty" or "technical fee." Highly controversial are payments paid for the use of software or automated digital platforms, either for digital or mobile network services. The development of new digital products or methods of delivering services raises questions regarding the correct classification of payments made in the context of new business models, particularly cloud computing (Prastowo, 2015). E-commerce payments online pose characterisation challenges. Without the need for an intermediary, it is difficult to determine if a company received funds while doing business. Often, the payer is the business owner (Hadzhieva, 2016).

Defining digital product and service payments is extremely challenging. Countries which enable the source jurisdiction to tax royalties and fees for technical services experience similar difficulties more often than the OECD. Insufficient physical presence-based nexus regulations in existing tax treaties and the possibility of taxing royalties or fees for technical services create a conducive environment for tax disputes, (Ministry of Finance, 2016). Business models have evolved since the previous information communication technology tax formulation, making it difficult to categorise payments as royalties, fees for technical services, or business profits. This is particularly true for cloud computing, which requires service-oriented hardware and software paradigms. 3D printing and other innovative company methods can cause branding complications. The OECD notes that payment characterization and nexus affect how digital transactions are taxed (Olbert & Spengel, 2017).

4. VAT Collection

Cross-border transactions in both products and services pose complications for VAT systems, primarily when customers purchase goods and services from foreign vendors. (Prastowo, 2015).

Addressing tax challenges of digital economy

Tax challenges in the digital economy have been addressed by the OECD's Task Force on digital industry. The OECD has examined three unique and relevant terms (Hadzhieva, 2016).

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1. New nexus based on significant digital presence

Significant can be evaluated primarily on country-specific digital transaction turnover, digital factors such as a local digital platform, a local domain name, local payment choices, or user-based factors (active domestic monthly platform users). Despite not having a physical presence, a large digital presence would result in a virtual physical presence in the source country. Second is the determination of the value created or allocation of profits to a virtual PE (Hongler & Pistone, 2015), which proposes broadening the PE concept to encompass digital services (apps, databases, marketplaces, storage, advertising services) delivered in another state on a website with more than 1,000 monthly users or a certain minimum turnover (Hongler & Pistone, 2015; Kofler, Mayr & Schlager, 2017).

2. Withholding tax on digital transactions

The second suggestion was to tax digital enterprises as foreign income and interest. As another income tax approach, the OECD's Final Report on Action 1 suggests a withholding tax on digital transactions. Such a withholding tax could be configured as (1) a final gross withholding tax on specified payments (a stand-alone option) or (2) a primary manner of imposition and collection to support the net taxation of virtual PE profits (a back-up mechanism). The recent directive acknowledges a withholding tax on digital transactions as an alternative option for such a short-term solution, describing it as a standalone gross-basis final withholding tax on some payments made to non-resident suppliers of online goods and services. Both seem problematic as a single tax and as a backup mechanism. Under a standalone option withholding tax, all digital business models would be lumped together. This undermines how value creation and profitability differ significantly between business models. A uniform withholding tax for company divisions (e.g., Amazon Retail vs. Amazon Web Services) is equally inappropriate. As a backup, a withholding tax would ensure flat-rate taxation. Second, it would address most challenges—including treaty law—that stem from redefining significant economic presence (Kofler, Mayr & Schlager, 2017).

3. Equalisation levy

The third is an equalisation levy, which is a direct tax liable on digital transactions by the recipient of the service. In addition, the BEPS Action 1 Final Report mentions equalisation levies to standardise suppliers both domestic and international. According to the OECD, an equalisation levy in the digital economy is intended to tax a non-resident enterprise's substantial economic presence in a country while avoiding the issues of profit attribution for purposes of the virtual PE concept. An equalisation tax necessitates a significant economic footprint in order to ensure transparency, stability, and equity for all stakeholders. To avoid placing an excessive burden on small and medium-sized enterprises, an equalisation tax would only be levied when a non-resident company has a substantial economic presence (Kofler, Mayr & Schlager, 2017). What can be taxed, and the amount must be apparent. In this context, it is crucial to consider how a turnover-based tax could affect different business models. Amazon, Google, Netflix, and other companies would be taxed if the equalisation tax included all Internet-based activity. All business models would be taxed at the same turnover-based rate, but the profit-based effect on typical B2B (e.g., Google) and B2C (e.g., Amazon, Netflix) models would be different due to margins. Amazon, Google, Apple, Netflix, and others have different business models that highlight distinct approaches to equalisation levies, and a new nexus based on a significant economic presence. Profit allocation to a virtual PE predicated on a functional analysis allows for clear differentiation between business models. This concept seems more sophisticated than turnover-based taxes and would create a balanced tax structure (Kofler, Mayr & Schlager, 2017).

Conclusion:

Challenges presented by digital firms to the efficiency of international corporate tax rules must only be resolved on a sustainable basis through unilateral and multilateral modifications in the form of significant economic presence, withholding tax, and equalization levy. The international community as a whole needs to agree that digital businesses are a problem for the tax system and that something needs to

be done about it. They also need to agree on a plan and timeline for real reform of the international tax framework.

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Conflicts of Interest:

The authors declare that the research review was conducted in the absence of any commercial or economic associations that could be construed as a potential conflict of interest.

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