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"TAXATION OF THE DIGITAL ECONOMY"

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List of Abbreviations

AI	Artificial Intelligence
ATAD	Anti-Tax Avoidance Directive
B2B	Business-to-Business
B2C	Business-to-Customer
B2P	Business-to-Peer
BaaS	Blockchain-as-a-Service
BEFIT	Business in Europe: Framework for Income Taxation
BEPS	Base Erosion and Profit Shifting
C2C	Customer-to-Customer
CARF	Crypto Asset Reporting Framework
CCCTB	Common Consolidated Corporate Tax Base
CCTB	Common Corporate Tax Base
CFC	Controlled foreign company
CJEU	Court of Justice of the European Union
CPC	Cost Per Click
DAC	Directive on Administrative Cooperation
DeFi	Decentralized Finance
DLTs	Distributed Ledger Technologies
DST	Digital Services Tax
EU	European Union
G20	Group of Twenty
GloBE	Global Anti-Base Erosion
HFT	High-Frequency Trading
HNWI	High-Net-Worth Individual
IaaS	Infrastructure-as-a-Service
ICT	Information and Communication Technology
IIR	Income Inclusion Rule
IoT	Internet of Things
IPE	Intermediate Parent Entity
MAU	Monthly Active Users
MiCA	Markets in Crypto-Assets
ML	Machine Learning
MLC	Multilateral Convention
MNE	Multinational Enterprise
NFT	Non-Fungible Token

OECD	Organization for Economic Co-operation and Development
P2P	Peer-to-Peer
PaaS	Platform-as-a-Service
PE	Permanent Establishment
POPE	Partially-Owned Parent Entity
SaaS	Software-as-a-Service
SEP	Significant Economic Presence
STTR	Subject To Tax Rule
TFDE	Task Force on the Digital Economy
TP	Transfer Pricing
UCC	User-Created Content
UPE	Ultimate Parent Entity
USA	United States of America
USD	United States Dollar
UTPR	Undertaxed Payment Rule
VAT	Value Added Tax
VPE	Virtual Permanent Establishment
WHT	Withholding Tax

I. Introduction

A. Outlining the problem

Since the 1923 Double Taxation Report,[1] drafted by four economists under the entrustment of the League of Nations, the cross-border income tax collection system has been based on a simple rule: positive income is levied in the source country and passive income is levied in the residence country.[2] This system, implemented through bilateral tax treaties, has provided clear answers to the questions "Where to tax?" and "What to tax?" for one hundred years.

Today, as we stand on the cusp of a new *meta*-era, the global community finds itself grappling with the complexity brought about by the digital revolution. The traditional principles of international tax law, meticulously designed to deal with physical business activities, are now being tested by the intangible, flexible and ever-moving nature of the digital economy. The paradigm shift from tangible to intangible assets and the rise of distance transactions have raised critical questions about the applicability of existing tax frameworks in a rapidly digitizing world.

In addition to all this, the new technologies have come to create in a very short time many innovative digital business models, but also to strengthen the existing ones, creating trading systems that the world's legislators had not even imagined - and still struggle to understand, let alone regulate. In the first place, of course, is the blockchain technology and the cryptocurrencies based on it, which in many jurisdictions remain unregulated, while the related efforts at the level of international cooperation focus on increasing the transparency of such transactions.

Consequently, a departure from the traditional principles of international taxation has become imperative. In this context, market jurisdictions, recognizing the inadequacies of existing tax structures, have begun efforts to claim tax rights for digital companies operating in their territory. This shift marks a significant departure from the conventional concepts of permanent establishment and source taxation as governments seek to redefine their fiscal sovereignty in the face of digital transformations.[3]

In this context, the search for new principles to govern the taxation of the digital economy has sparked a heated debate, with countries rethinking their approaches to tax regulations. The urgent need to tackle the problem of tax avoidance by the tech giants led to the introduction of unilateral tax measures and the exploration of innovative nexus to capture the digital footprint of global businesses. However, as this is an issue that cannot be resolved unilaterally by each state, given that it is a principle of international tax law to avoid double taxation, the global community was led, through intense and long-term negotiations within the OECD, to adopt a multilateral instrument, which aims, first, at providing a fair distribution of profits and taxing rights across countries and, second, at establishing a minimum corporate tax rate to protect the tax basis for respective countries but also take care of international tax competition to some extent.

Of course, the European Union, always keen to remain at the forefront of digital economy policy-making and within its Digital Single Market strategy, has not been left behind but has taken various

[1] Bruins et al., *League of Nations Report on Double Taxation Submitted to the Financial Committee*, 1923
[2] W Xu, *Reconstruction of International Tax Rules to Meet the Challenges of Digital Economy*, Beijing Law Review, 2023, vol. 14, no. 1, 125–142, p. 125
[3] C. O. Lucas-Mas and R. F. Junquera-Varela, *Tax Theory Applied to the Digital Economy: A Proposal for a Digital Data Tax and a Global Internet Tax Agency*, DC: World Bank, 2021, pp. 7-9

initiatives in the field of digital business taxation and the strengthening of administrative cooperation between member states, especially through the adoption of directives, which follow, specify and apply the example of the OECD.

This thesis aims to comprehensively analyse the complex relationship between the digital economy and international taxation, shedding light on the challenges and global initiatives reshaping the modern fiscal landscape.

It begins by delving into the fundamental characteristics of the digital economy, examining its various business models and the role of emerging technologies that have facilitated its rapid evolution. It sheds light on the transformative impact of the digital sphere on traditional business practices (Chapter II).

It then critically examines the key challenges posed in the context of the digital economy to the respect the fundamental principles of international taxation. In particular, it focuses on some of these principles, including territoriality, tax fairness, avoidance of double taxation and combating tax evasion and avoidance (Chapter III).

In addition, it provides an extensive review of efforts globally to address the tax challenges the digital economy poses. In particular, it analyses the efforts of prominent international organisations such as the Organisation for Economic Co-operation and Development (OECD) and the European Union (EU) in formulating policies and guidelines for effective taxation of digital businesses (Chapter IV).

Finally, recognizing the role of cryptocurrencies in the modern digital economy, this paper exposes the complexity of the challenges that arise when attempting to tax them. It examines the different approaches adopted by various states and international organizations, including the OECD's Crypto Asset Reference Framework ("CARF") and the EU's "DAC8" Directive (Chapter V).

B. Methodology used

The research conducted for this thesis was driven by a systematic and comprehensive approach to gather relevant information and insights from various credible sources. In particular, the methodology employed in the development of this study encompassed the following key components:

The initial phase of the research involved the first-hand and primary study of the relevant OECD reports, which played a pivotal role in understanding the global efforts and initiatives related to the taxation of the digital economy. Analysis found in the OECD's publications, including reports, policy notes, statements and public consultation papers, provided valuable insights into the evolving international regulatory landscape and the proposed solutions to address the complex challenges posed by the digital economy.

In addition, a comprehensive examination of relevant European legislation was conducted to grasp the legal framework governing the taxation of digital enterprises within the European Union. This aspect of the research involved a meticulous review of relevant key policies and directives formulated by the European Commission and the Council.

The research was further strengthened through a comprehensive review of international and Greek bibliography, encompassing scholarly articles, academic journals, research papers, and books, on the issues of the digital economy, its diverse business models, and the associated tax implications.

Access to various reputable online databases and visits to the libraries, namely that of the Law School of the National and Kapodistrian University of Athens and that of the Athens Bar Association, facilitated the acquisition of diverse perspectives and expert insights from renowned scholars and experts in the field. Also, an online investigation on prominent companies within each digital business model provided practical examples to contextualize the theoretical framework.

The methodology employed in this study aimed to synthesize qualitative information from diverse sources, enabling a holistic understanding of the challenges and implications associated with the taxation of the digital economy. By integrating findings from primary and secondary sources, this thesis endeavours to contribute to the ongoing discourse surrounding the development of effective and equitable taxation policies for the digital age.

II. The digital transformation of the economy

The digital revolution has ushered in an era of profound transformation, permeating every facet of modern economic activities. The seamless integration of technology and commerce has precipitated what is now commonly referred to as the digital economy. This chapter delves into the intricate tapestry of this digital landscape, unraveling its multifaceted dimensions. By analyzing the fundamental characteristics and tenets of the digital economy (A) and exploring its prominent paradigms (B), this chapter aims to establish a comprehensive understanding of its complex terrain. Of course, this analysis wouldn't be complete without delving into the profound impact of new technologies, to eludicate how these advancements are further transforming digital business models (C). Laslty, by identifying the shared attributes inherent in digitalized business models (D), this chapter aims to lay a comprehensive foundation for navigating the complexities inherent in the taxation of the digital economy (III).

A. What is the digital economy?

The digital economy represents a profound shift in economic activities, where knowledge and information serve as fundamental production factors. This new economic landscape leverages advanced information networks and the effective utilization of information and communication technology (ICT) to enhance efficiency and optimize economic structures.[4] The integration of digital technology into traditional industries underscores the transformative nature of the digital economy, which, while in some ways distinct from the traditional economy, remains intricately interconnected with it. As observed by the Task Force on the Digital Economy,[5] *there is no separate digital economy*.[6]

[4] Z. Qin et al., *E-Commerce: Concepts, Principles, and Application*, Springer Nature Singapore, 2022, p. 13

[5] The Task Force on the Digital Economy, ofter referred to as the "Digital Task Force", is a subsidiary body of the Committee on Fiscal Affairs (CFA) of the OECD established in September 2013 to develop a report identifying issues raised by the digital economy and possible actions to address them by September 2014.

[6] KPMG, *Comments on the OECD Discussion Draft on the Tax Challenges of the Digital Economy*, 14 April 2014, available at: https://assets.kpmg.com/content/dam/kpmg/pdf/2014/06/digital-economy-discussion.pdf (accessed 31/10/2023); Deloitte, *International Tax Alert: BEPS Action 1: Address the Tax Challenges of the Digital Economy*, 24 September 2014, available at: https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/tax/ca-en-tax-beps-action-1-address-the-tax-challenges-of-the-digital-economy.pdf (accessed 31/10/2023)

Digital technology within the digital economy encompasses two key components: digital industrialization and industrial digitalization. The former highlights the emergence of various information industries, including telecommunication services, internet services, electronic self-manufacturing, and software development. Industrial digitalization, on the other hand, emphasizes the deep integration of digital technology into conventional industries, facilitating their evolution and modernization.[7]

In essence, the digital economy represents a revolutionary departure from conventional agricultural and industrial economies, characterized by a fundamental shift in basic concepts, essential attributes, and operational frameworks. With innovation in digital technology at its core, the digital economy is the inevitable outcome of scientific and technological progress, showcasing the practical application of the latest industrial revolution's innovative achievements in the economic realm.

This evolution toward the digital economy signifies a progressive leap forward, building upon the foundations of preceding economic models. Key to this advancement is the digital economy's emphasis on knowledge and information as pivotal production factors. In line with historical patterns, each major economic transformation has relied on new and evolving production factors, such as labor and land in the agricultural era and capital and technology in the industrial epoch. The digital economy, in this regard, prioritizes knowledge and information as the cornerstone of its operations, reshaping decision-making processes, transforming commodities, and influencing modes of governance.[8]

Moreover, the digital economy underscores the imperative of integrating digital technology into diverse industries, echoing historical trends where pivotal industries have emerged in tandem with technological revolutions. While the information industry currently leads the charge, its share of the overall economic output is gradually declining, indicative of the digital economy's expanding influence beyond the realms of information-centric sectors. This pervasive integration necessitates traditional businesses to undergo digital transformation to sustain their competitive edge, as witnessed in the seamless assimilation of digital technology within the retail sector, fueling the rise of new retail models and sharing economy frameworks.[9]

B. Business models of the digital economy

As it follows from the above, the advent of the digital era has wrought a profound impact on the landscape of contemporary business and its consumer base. The proliferation of digital technologies, coupled with the extensive accessibility of data, has catalysed the evolution of novel and disruptive business paradigms.[10] Many of these innovative models are predicated upon the reimagining and restructuring of conventional business exchanges. These models have not only revolutionized traditional business transactions but have also raised significant challenges in the context of taxation. An examination of each prominent business model within the digital economy will provide a comprehensive overview of their fundamental characteristics and operational dynamics.

[7] Qin et al., pp. 13-14
[8] Ibid., p. 14
[9] Ibid., pp. 14-15
[10] T. L. J. Broekhuizen et al., '*Introduction to the Special Issue – Digital Business Models: A Multi-Disciplinary and Multi-Stakeholder Perspective*', Journal of Business Research, 1 January 2021, vol. 122, 847–52, p. 847

The list of business models in this section is of course not restrictive. Their selection has been made following the OECD 2015 BEPS Final Report on Action 1[11] as a model. Specifically, the following analysis covers: sharing economy (1), e-commerce (2), cloud computing (3), participative networked platforms (4), online payment services (5), online advertising (6), app stores (7) and high frequency trading (8).

B. 1. Sharing economy

In the European Commission's communication "European agenda for a collaborative economy" it is mentioned that "*the term "collaborative economy"*[12] *refers to business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals*".[13]

The sharing economy model basically describes a method of exchanging goods or services between buyers and sellers using a platform that facilitates transactions by saving the costs of searching and finding opportunities, as well as the costs of carrying out the transactions. The sharing economy is based on the reinvention of traditional market behaviours such as lending, renting, sharing, bartering, etc. through technology that allows for significant scaling of these.[14] Change of ownership is usually not the object of collaborative economy transactions. However, they may involve some transfer of ownership of intellectual property.[15]

This model implies the partnership of three actors: a) service providers, who make available assets, resources, time and/or skills and can be either individuals providing services opportunistically ("peers") or service providers acting in their professional capacity ("professional services providers"); b) users/recipients of these services; and c) intermediaries, who, through an online platform, connect providers and users and facilitate transactions between them ("collaborative platforms").[16]

As far as users are concerned, they are usually individuals (P2P). However, they may be professionals (B2B) or professionals as providers and individuals as users (B2P).[17]

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[11] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project, Paris: OECD Publishing, 2015

[12] The terms "sharing economy", "collaborative economy", "collaborative consumption", "on-demand economy", "peer platform", "access economy", "cross-based capitalism", "gig economy" are used interchangeably. The term "sharing economy" as an umbrella term appears to be the most predominant.

[13] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *A European Agenda for the Collaborative Economy,* COM/2016/0356 final, p. 3

[14] R. Botsman, *Defining The Sharing Economy: What Is Collaborative Consumption–And What Isn't?*, Fast Company, 27 May 2015

[15] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *A European Agenda for the Collaborative Economy,* COM/2016/0356 final, p. 3

[16] Ibid.

[17] S. Charaktiniotis, *Η Ψηφιακή Οικονομία Του Διαμοιρασμού (Sharing Economy) Υπό Το Πρίσμα Του Δικαίου Του Αθέμιτου Ανταγωνισμού [The Digital Sharing Economy in the Light of Unfair Competition Law]* in *Νομικά Προβλήματα Των Διαδικτυακών Συναλλαγών [Legal Problems of Online Transactions]*, 2ο Συνέδριο ΕΜΕΟΔ [2nd EMEOD Congress], Nomiki Bibliothiki, 2018, p.134.

As regards digital platforms, they are electronic bilateral or multilateral markets where two or more groups of users communicate via the internet, mediated by the platform operator, in order to achieve a real-time link between supply and demand and to facilitate a transaction between users.[18]

The advantages of the sharing economy can be summarised, firstly, in the possibility of meeting needs accurately, efficiently and in real time by dynamically linking supply and demand, secondly, in the high level of trust on both sides of the platform, due to the use of dynamic evaluation tools and the mitigation of asymmetric information, and thirdly, the flexibility offered to users through the use of underutilized assets to access a broad customer base without incurring prohibitive market entry costs.[19]

Examples of companies that operate within the sharing economy include:

- Airbnb: A well-known platform that allows people to rent out their homes, apartments, or rooms to travellers.
- Uber: A ride-sharing company that enables users to book a ride through a mobile app, connecting passengers with drivers of vehicles for hire.
- Lyft: Another ride-sharing company that provides on-demand transportation services through a mobile app.
- Turo: An online P2P car-sharing marketplace that allows private car owners to rent out their vehicles to others.
- TaskRabbit: A platform that connects people with local skilled workers to handle tasks such as furniture assembly, moving, handyman work, etc.
- Fiverr: A freelance services marketplace where individuals can offer their services, known as "gigs", in various fields such as writing, graphic design, programming, etc.
- Zipcar: A car-sharing company that provides self-service vehicles for rent to individuals and businesses on an hourly or daily basis.
- Couchsurfing: A hospitality exchange and social networking website that connects travelers with locals in the city they are visiting, who offer free lodging, advice, and companionship.
- Spinlister: A P2P marketplace for renting and sharing bicycles, snowboards, skis, and surfboards.

B. 2. E-commerce

B .2. i. Definition and basic concepts

According to the 2009 definition by the OECD, "*an e-commerce transaction is the sale or purchase of goods or services conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders. The goods or services are ordered by those methods but the payment and ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments and other public or private organizations*". Also, according to the OECD 2009 revised guidelines for interpreting the definition of e-commerce, the latter includes orders made in web pages, and the type is defined by the method of making the order. Orders made by telephone calls, facsimile, or manually typed in email are excluded.[20]

The basic concepts of e-commerce mainly include *virtual stores*, *virtual shopping carts*, *virtual goods*, and *virtual logistics*.[21]

[18] Ibid.
[19] Ibid., p. 137
[20] OECD, *OECD Guide to Measuring the Information Society 2011*, Paris: OECD Publishing, 2011, p. 72
[21] Qin et al., p. 70

Virtual stores, also known as "online stores" or "electronic shopping malls," serve as digital marketplaces where businesses can showcase and sell products on the internet. These online platforms mimic the traditional retail experience, allowing consumers to browse and purchase goods via a company's website, thus eliminating the need for a physical storefront and associated costs.[22]

The virtual shopping cart in e-commerce functions similarly to a physical shopping cart, enabling consumers to store selected items for later checkout and payment, streamlining the overall purchasing process.[23]

Virtual goods can be broadly categorized into two types: virtualization of tangible goods and virtualization of intangible goods. The former refers to the digital representation of physical products, enabling consumers to browse and purchase items online without physical interaction. The latter includes digital products such as movies, music, and online games, which can be distributed electronically over the internet.[24]

Virtual logistics refers to internet-based logistics services employing information technology and intelligence. It primarily serves e-commerce operations, managing the distribution of both tangible and intangible goods. For intangible items, virtual logistics leverages high-speed internet transmission, while tangible goods rely on a networked system, Space-Terrestrial Integrated Network (STIN), for precise management and delivery. This approach fosters resource sharing, risk mitigation, and efficient order fulfillment, meeting the demands of the e-commerce logistics market.

Virtual logistics differs from traditional logistics in five key aspects: informatization, automation, networking, intelligence, and flexibility. It excels in digitizing information, automating processes, establishing network connections, implementing intelligent decision support, and adapting to consumer demand. In essence, virtual logistics underpins e-commerce, capitalizing on its spatial and temporal efficiency, big data processing, dynamic product tracking, real-time responsiveness, and location-based tagging.[25]

B .2. ii. Types of e-commerce business models

The various types of e-commerce can be classified based on the participants involved in the transactions. These classifications include Business-to-Consumer (B2C), Business-to-Business (B2B), Consumer-to-Consumer (C2C), Consumer-to-Business (C2B), Business-to-Administration (B2A), and Consumer-to-Administration (C2A).

B2C e-commerce involves transactions between businesses and individual consumers, with businesses offering products or services directly to end consumers through online platforms or websites. B2B e-commerce, on the other hand, centers on transactions between businesses, where electronic exchanges of goods or services occur between companies, manufacturers, suppliers, or distributors.[26]

[22] Ibid.
[23] Ibid., p. 71
[24] Ibid., p. 72
[25] Ibid., pp. 72-73
[26] Ibid. pp. 78-80

C2C e-commerce facilitates direct transactions between individual consumers, typically through online marketplaces or platforms that allow individuals to buy and sell products or services to one another. C2B e-commerce, however, reverses the traditional flow of commerce, enabling individual consumers to provide products or services to businesses, often seen in the context of freelance or service-oriented platforms.[27]

Furthermore, B2A e-commerce pertains to electronic transactions between businesses and public administrations, involving the exchange of goods, services, or information, while C2A e-commerce refers to transactions between individual consumers and public administrations. These types of e-commerce reflect the diverse interactions and transactions that take place within the digital realm, shaping the contemporary landscape of commercial activities and consumer behavior.[28]

Examples of e-commerce companies include:

- B2C: Amazon is one of the largest online retailers, offering a wide variety of products to consumers globally. Walmart is multinational retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores. Function of Beauty sells personal care items for individuals and allows customers to customize the product's formula according to their preferences.
- B2B: Alibaba is a B2B e-commerce platform that connects manufacturers and wholesalers with buyers globally. ThomasNet is an online platform that connects industrial buyers and sellers, facilitating B2B transactions in the manufacturing sector. Slack is a communication software exclusive for firms and companies.
- C2C: eBay is popular online marketplace where individuals and businesses can buy and sell a wide range of products and services. Etsy is a platform focused on handmade or vintage items and craft supplies, allowing individuals to sell their unique products to other individuals. Facebook Marketplace allows Facebook users living in the same region to buy and sell from one another.
- C2B: Upwork is a freelancing platform where businesses can hire freelancers for various projects, such as writing, programming, and graphic design. Fiverr is an online marketplace offering freelance services in categories such as graphic design, digital marketing, writing, and video editing.
- B2A: SAP Ariba is an e-procurement platform that facilitates B2A transactions by connecting businesses with government agencies for procurement and sourcing needs. OpenGov is a cloud software aiming to help local and state governments with their day-to-day operations, with management tools for budgeting, accounting, reporting, and licensing.
- C2A: TurboTax is a software package for the preparation and filing of tax returns, enabling individuals to engage in C2A transactions for tax filing. EFTPS (Electronic Federal Tax Payment System) is a website that allows US citizens to pay taxes online.

B. 3. Cloud computing

According to the OECD, "*cloud computing is the provision of standardised, configurable, on-demand, online computer services, which can include computing, storage, software, and data management, using shared physical and virtual resources (including networks, servers, and applications*).[29] Also, cloud computing is defined in the report of the US National Institute of Standards and Technology as "*a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage,*

[27] V. Jain, M. Bindoo, and A. Satyendra, *An Overview of Electronic Commerce (e-Commerce), Journal of Contemporary Issues in Business and Government*, 22 May 2021, 27, 665–70, p.667
[28] Ibid.
[29] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, para. 140

applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction".[30]

To put it with simpler words, cloud is a global network of servers, each with a unique function, hooked together and meant to operate as a single ecosystem. Cloud computing is a general term for anything that involves delivering hosted services over the internet. These services are divided into three main categories or types of cloud computing: *infrastructure as a service* (IaaS), platform as a service (PaaS) and *software as a service* (SaaS).

In the IaaS model, providers offer fundamental computing resources, including virtual machines, storage, and networking components, while allowing customers control over operating systems and deployed applications. Put simply, IaaS is akin to renting the essential tools needed for using a computer, such as storage space and the ability to run programs, without having to manage the actual computer. The users retain control over the elements they utilize on the computer, like the specific programs they run.

PaaS, on the other hand, provides a computing platform and programming tools for software developers, with the client having control over the applications but not the underlying infrastructure. In other words, PaaS is like acquiring a pre-built workspace furnished with all the necessary tools for creating a particular type of computer program. The users can use this workspace to build their own program, but they cannot alter the tools already provided.

SaaS, a popular cloud computing form, enables users to access applications through a web interface, freeing them from the need to manage the underlying infrastructure, including servers and storage. Put in a simple way, SaaS functions similarly to using a program on the internet without needing to install it on the personal computer. For example, using email through a website rather than installing it. The technical aspects behind the program are not the users‘ concern.

Furthermore, there are other types of services, such as *content-as-a-service* and *data-as-a-service*, which further extend the cloud computing paradigm, allowing for the provision of software and aggregated data from multiple sources, respectively, with controlled access granted to geographically dispersed entities. In other words, these types of services enable users to access various types of information or content online without needing to be concerned about their sources or how they are managed.[31]

Some examples of companies that provide cloud services include:

-IaaS: Amazon Web Services (AWS) provides a wide range of IaaS services including virtual servers, storage, and networking. Microsoft Azure offers IaaS solutions like virtual machines, storage, and networking capabilities for businesses.

-PaaS: Google App Engine is a PaaS that allows developers to build and host web applications on Google's infrastructure without needing to manage the underlying hardware. Heroku is a cloud platform that enables developers to build, deliver, monitor, and scale applications.

-SaaS: Salesforce offers a popular SaaS platform for customer relationship management that can be accessed through a web browser. Dropbox provides file hosting services through a cloud-based SaaS model, allowing users to store and share files online. DPOrganizer is a SaaS platform for privacy management.

[30] P. Mell and T. Grance, *The NIST Definition of Cloud Computing: Recommendations of the National Institute of Standards and Technology*, NIST, U.S. Department of Commerce, Special Publication 800-145, 2011
[31] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., paras. 143-144

B. 4. Participative networked platforms

Participative networked platforms refer to digital intermediaries that facilitate user collaboration and contribution toward the creation, distribution, and evaluation of user-generated content (also called "user- created content" or "UCC"). Put simply, these platforms are online spaces where people can work together and contribute to making, sharing, and discussing content. This content can be anything from text and images to videos and audio created by the users themselves. Examples of these platforms include blogs, social media sites, and online communities where people can collaborate and share their ideas without expecting to make money from it directly. However, the platform itself can make money in various ways, such as through advertisements, subscriptions, or selling user data. This model is not just limited to social networking; it is also used in various other fields like fashion, toy design, and computer games, where people can collaborate and contribute to the development of products. While this kind of collaborative production is not yet widespread, some businesses are using it effectively, involving consumers in the development and improvement of their goods and services through feedback.[32]

Some prominent examples of Participative Network Platforms include:

- Social Networking Platforms: Facebook, Twitter, Instagram, and LinkedIn are prominent platforms that enable users to create and share content, connect with others, and participate in online discussions.
- Blogging Platforms: WordPress, Blogger, and Medium are popular platforms that facilitate the creation and sharing of written content by individuals and organizations, allowing users to engage in discussions through comments and feedback.
- Collaborative Content Creation Platforms: Online wikis like Wikipedia enable users to collaboratively create, edit, and share content on various topics, fostering a community-driven approach to knowledge sharing and creation.
- User-Generated Content Platforms: YouTube and TikTok provide users with the tools to create and share their videos, fostering a community of content creators and consumers who engage with and contribute to the platform's content.
- Crowdsourcing Platforms: Platforms like Kickstarter and Indiegogo allow individuals and businesses to raise funds for various projects, products, or causes, leveraging the collective contributions of a networked community.
- Online Community Forums: Reddit and Quora serve as interactive platforms where users can participate in discussions, ask and answer questions, and share their knowledge and expertise with others.
- Teaching and learning communities: Platforms like Skillshare and Coursera allow users, both instructors and learners, to actively engage in the creation and sharing of educational content.

B. 5. Online payment services

The conventional method of payment for online transactions necessitated the disclosure of sensitive financial information, leading to trust issues, especially with unfamiliar vendors, and particularly in the case of C2C transactions. To alleviate these concerns, online payment service providers act as intermediaries, ensuring secure online transactions without the need for parties to share financial data. These providers accept various payment methods, including credit cards and direct bank transfers, facilitating transactions and transferring funds to the seller. Offering protection against fraud and enabling multi-currency transactions, these electronic payment systems charge fees per transaction, which can be fixed or percentage-based, in addition to potential monthly or setup fees for supplementary services. Alternative online payment options include cash payment solutions, e-wallets, and mobile payment solutions, each catering to specific

[32] Ibid., paras. 149-150

user preferences and requirements. Furthermore, the emergence of virtual currencies in the digital economy has provided an additional means of purchasing goods and services, with specialized exchanges facilitating their trade for real currency.[33]

Some notable examples of companies which provide this kind of services include: PayPal, Stripe, Square, Skrill, Google Pay, Apple Pay, Samsung Pay, Venmo, Google Wallet, Paysafecard, Western Union, Viva Wallet, Coinbase, Binance and Kraken.

B. 6. Online advertising

The amount of time people spend consuming media online is driving up the share of online advertising in the overall advertising business. Internet advertising is the primary source of income for some of the biggest technology companies, such as Google and Facebook.[34]

Companies use online advertising for the same reasons they deploy other kinds of advertising. Advertising can be persuasive, altering consumer tastes. It can be informative, saving customers money on the expense of acquiring information. Or it can be complementary to the product that is being advertised, boosting the product's consumption value without changing consumers' underlying preferences.[35] It is argued that "the fundamental economic difference between online and offline advertising is a substantial reduction in the cost of targeting".[36]

Online advertising has given rise to a number of new payment calculation methods, such as cost-per-mille (CPM), in which advertisers pay per thousand displays of their message to users, cost-per-click (CPC), in which advertisers pay only when users click on their advertisements, and cost-per-action (CPA), in which advertisers only pay when a specific action (like a purchase) is made by a user. In this aspect, online advertising is very different from traditional advertising, which involves payment for display of ads for a specified period of time, with little means of tracking visibility or user interaction.[37]

Online advertising can be divided into three general categories: search advertising, classified advertising, and display advertising. Across these three categories, targeting of consumers can take many forms, such as demographic, contextual and behavioural targeting.[38]

"Search advertising" is the advertising that shows up along with the algorithmic, or "organic", results on search engines. Every search is perceived as a declaration of intent and through this type of advertising the advertisers may target consumers at the same moment they are searching for something that interests them.[39] Search advertising is priced by a unique auction mechanism, with a separate auction taking place for each search query.[40] Usually, marketers pay each time a consumer clicks on their advertisement (also known as "cost per click," or CPC).

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[33] Ibid., paras. 126-129.
[34] A. Goldfarb, *What Is Different About Online Advertising?*, Review of Industrial Organization, 2014, vol. 44, no. 2, 115–29, p.115
[35] K. Bagwell, *The economic analysis of advertising*, in M. Armstrong & R. Porter (Eds.), *Handbook of Industrial Organization*, Amsterdam: North-Holland, 2007, Vol. 3, 1701–1844.
[36] Goldfarb, p.116
[37] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., para. 138.
[38] Goldfarb, pp.116-117
[39] Ibid.
[40] For an example on how search engines "decide" which ads will appear for a specific search and in which order see Google's explanation of the auction process, available at: https://support.google.com/google-ads/answer/6366577?hl=en , and https://support.google.com/google-

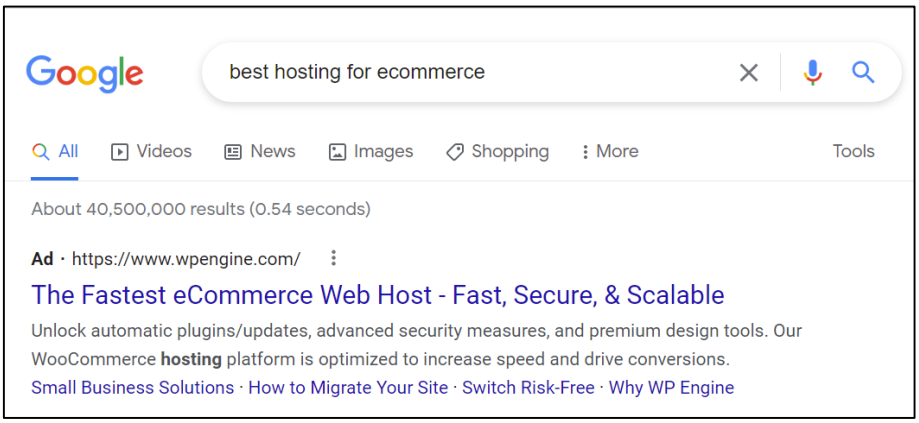

Figure 1: Example of search ad [41]

Regarding "classified advertising", it said that, in a sense, "*classified, or "want," advertising has existed almost since humans learned to communicate and express needs that they could not fulfill themselves*".[42] It is defined as "*a small advertisement that you put in a newspaper or a magazine, usually because you want to sell or buy something or to find or offer a job*".[43] It is a type of print and web advertising that appears under a specific category in a publication. Examples of classified online ads include advertisements in online publications for job openings, apartments, cars, and furniture, which help businesses and individuals reach local buyers.[44] Online jobs sites and (to a certain extent) online dating sites also fit into this category.[45] Classified advertising is relatively low cost, especially compared to other types of traditional and digital marketing. However, its reach and targeting capacity are limited in comparison.[46]

ads/answer/142918?hl=en#:~:text=The%20process%20that%20happens%20with,goes%20through%20the%20ad%20auction (accessed 31/10/2023).

[41] Source: google.com

[42] K. Egolf and J. McDonough, *Classified Advertising* in *The Advertising Age Encyclopedia of Advertising*, Routledge, 2002

[43] Cambridge dictionary, available at: https://dictionary.cambridge.org/dictionary/english/classified-ad (accessed 31/10/2023).

[44] W. Wells et al., *Advertising: Principles and Practice*, 7th ed, New Jersey: Prentice Hall, p. 217; Examples of such websites include: Craigslist, eBay Classifieds, Facebook Marketplace, Poshmark, Gumtree, OLX, etc.

[45] Goldfarb, p.117

[46] Source: https://www.pipiads.com/blog/display-classified-ads-examples/ (accessed 31/10/2023)

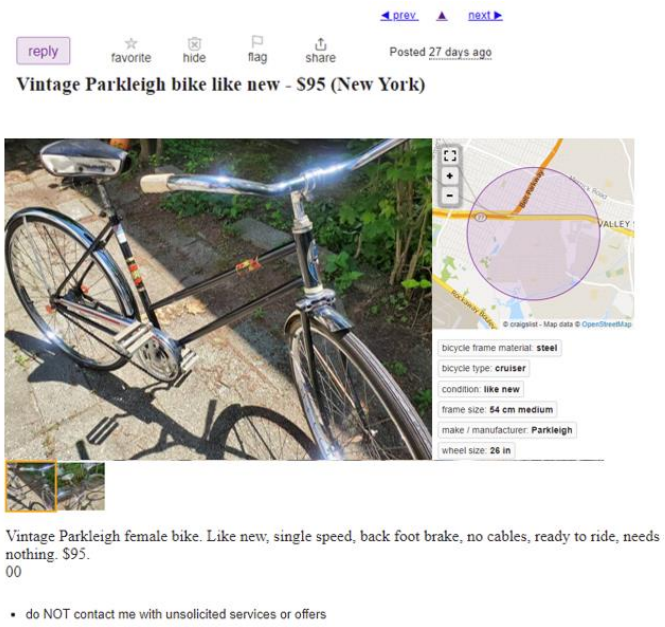

Figure 2: Example of classified ad [47]

Lastly, the primary source of income for online websites that are not search engines is "display advertising". It consists of standard banner advertisements, text-only ads, media-rich ads, video commercials, and the standard ads that appear on social networking platforms. Depending on the website, display advertising is charged using a number of different methods. Some are priced based on negotiated purchases, like network television; some are priced using specialized auctions, like search advertising; and some have a fixed price that may be bought online or through a sales force. Companies usually pay for each view and cost per thousand impressions is the unit of measurement.[48]

Figure 3: Example of display ad [49]

As already mentioned, across these three categories of online advertising, there are various types of targeting:

Demographic targeting provides digital advertisers with an effective way to narrow down their audience to those who are most likely to fall into particular demographic groups. For example, Google Ads allows advertisers to specify the age range, gender, household income range and parental status of the audience to which the advertisement will be displayed.[50]

Contextual targeting is a further type of targeting. Ads that are contextually targeted fit the website's content. Advertisers that use search engine advertising link their advertisements to the content of the search results. The aim is to use the interest of the user in a particular topic. Display advertising frequently uses contextual targeting.[51]

[47] Source: Craigslist.com
[48] Goldfarb, p.117
[49] Source: online
[50] See https://support.google.com/google-ads/answer/2580383?hl=en (accessed 31/10/2023).
[51] Goldfarb, p.117; For example, gym clothes could be advertised on websites that refer to workout routines or review protein powders, diapers on sites that discuss parenting etc.

Behavioural targeting is the practice of segmenting customers based on web browsing behaviour, including things like pages visited, searches performed, links clicked, and products purchased. Visitors with similar behaviours are then grouped into defined audience segments, allowing advertisers to target them with specific, relevant ads and content based on their browsing and purchase history.[52]

Location targeting allows advertisers to display their ads in the geographic locations of their preference: countries, areas within a country, a radius around a location, or location groups. In this way they can target consumers who are either located in a specific area or have expressed an interest in that area.[53]

Examples of companies that provide online advertising services include:

- Search Advertising: Google Ads, Microsoft Advertising, Yahoo! Advertising, Yandex.Direct
- Classified Advertising: Craigslist, Gumtree, Oodle, Backpage, Kijiji
- Display Advertising: Google Display Network, Facebook Ads, LinkedIn Ads, Twitter Ads, Amazon Advertising

B. 7. App stores

App stores are digital platforms, primarily integrated within operating systems, that facilitate the distribution and access to various software applications for smartphones and tablets, leveraging the widespread use of these mobile devices. Functioning as centralized retail hubs, these platforms enable users to browse, evaluate, purchase, and seamlessly download and install applications directly onto their devices. The accessibility of app stores can be contingent upon device-specific compatibility, particular operating system requirements, or specific network operator agreements, influencing the extent of user access.

These app stores host a diverse array of applications, stemming from both the proprietary development efforts of the operating system developers, device manufacturers, or telecommunications network providers, as well as third-party developers. The available applications encompass both free and paid variants, with the former often incorporating advertising as a revenue model, and the latter extending into the "freemium" paradigm, providing basic functionalities free of charge, while offering premium content or advanced features for a fee.

Moreover, the app store landscape embraces a global spectrum of applications crafted by developers from diverse geographic regions, with multiple app stores catering to distinct market demographics. Notably, the prevalence of free applications is on the rise, projected to dominate the majority of downloads in the coming years, while in-app purchases are anticipated to contribute substantially to app store revenue, underscoring evolving consumer preferences and consumption patterns in the digital marketplace.[54]

Some examples of these app stores include: Apple App Store, Google Play Store, Microsoft Store, Amazon Appstore, Samsung Galaxy Store, Huawei AppGallery

B. 8. High-Frequency Trading

High-frequency trading (HFT), also known as high-speed trading, is a type of financial trading that uses powerful computers and advanced algorithms to analyze markets and execute a large

[52] A. Klever, *Behavioural Targeting - An Online Analysis for Efficient Media Planning?*, Diplomica Verlag, 2008, p.30
[53] See http://support.google.com/google-ads/answer/6317?hl=en and https://support.google.com/google-ads/answer/1722043 (accessed 31/10/2023).
[54] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., paras. 130-135

number of trades in very short periods of time. The main goal of HFT is to take advantage of small price discrepancies or market inefficiencies that may exist only for very brief moments. By conducting trades at incredibly fast speeds, sometimes in microseconds or milliseconds, high-speed traders aim to make profits from these small price differences. This practice has become increasingly common in modern financial markets and is often used by institutional investors and hedge funds to gain a competitive edge in the trading world.[55]

Examples of HFT firms include: Optiver, Tradebot Systems, IMC, DRW Trading, Quantlab Financial, Jump Trading, Virtu Financial, Two Sigma Securities

C. New technologies: further transformation of digital business

This section focuses on the integration of new technologies within the digital economy, namely IoT (1), Blockchain (2), AI (3), and the emerging Metaverse (4). Notably, these technological domains often converge, creating a dynamic interplay that significantly shapes the digital business landscape.

C. 1. Internet of Things

The Internet of Things (IoT) represents a pivotal aspect of the digital economy, revolutionizing the way devices and objects interact with each other and with their environment. IoT refers to the network of interconnected physical devices, vehicles, appliances, and other items embedded with sensors, software, and network connectivity, enabling them to collect and exchange data. The Internet of Things (IoT) enables extensive data collection and sharing via interconnected devices, sensors, and cloud systems. Utilizing this data enhances resource management, informed decision-making, and facilitates quick adaptation. As data processing becomes more sophisticated, devices can autonomously adjust their operations. While initially prominent in data-rich sectors like finance and advertising, this trend is expected to extend to traditional industries. Additionally, the integration of remote control and machine learning may lead to autonomous and intelligent systems, particularly in robotics.[56]

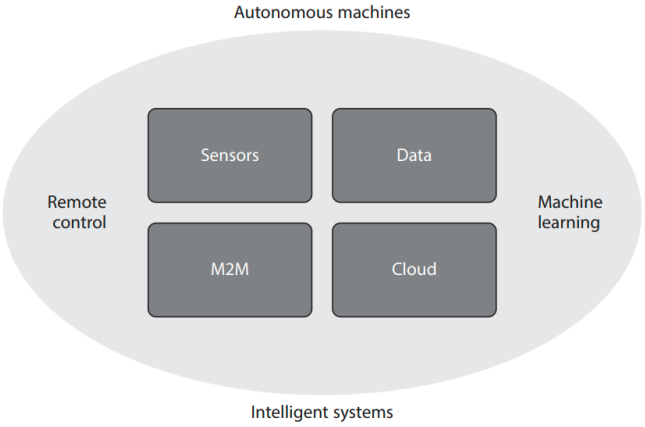

Figure 4: Main enablers of the Internet of Things[57]

[55] M. Buchanan, *M. Physics in finance: Trading at the Speed of Light*, Nature, 2015, 518, 161–163
[56] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, paras. 84-86
[57] Source: OECD, *OECD Digital Economy Outlook 2015*

In various industries, IoT has redefined operational processes, product functionalities, and customer experiences. Its impact can be observed across diverse sectors, including manufacturing, healthcare, transportation, and smart cities, among others. For instance, in manufacturing, IoT-enabled devices facilitate predictive maintenance, real-time monitoring of equipment, and the optimization of production processes. In the healthcare sector, IoT applications have facilitated remote patient monitoring, personalized treatment plans, and the development of smart medical devices.

Examples:

- Smart Home Systems: Companies Ring have developed IoT-based smart home systems that allow homeowners to remotely control security cameras, doorbells, thermostats, and other household devices. These systems enable users to monitor their homes in real-time and adjust settings through mobile applications, enhancing convenience, security, and energy efficiency.
- Industrial IoT: In the manufacturing sector, companies like General Electric and Siemens have integrated IoT technologies into their industrial processes, enabling predictive maintenance, real-time monitoring of equipment, and optimization of production workflows. This integration has streamlined operations, reduced downtime, and improved overall productivity.
- Connected Vehicles: Automotive companies such as Tesla, BMW, and Ford have incorporated IoT capabilities into their vehicles, creating connected car ecosystems that offer features such as remote diagnostics, navigation assistance, and driver-assist technologies. These IoT-enabled vehicles provide enhanced safety, convenience, and personalized driving experiences.
- Healthcare Monitoring Devices: Companies like Fitbit and Apple have introduced IoT-based healthcare monitoring devices that track users' health metrics, such as heart rate, sleep patterns, and physical activity. These devices provide users with personalized health insights and facilitate remote patient monitoring, fostering proactive healthcare management and wellness tracking.

C. 2. Blockchain

Blockchain technology, seen by many as a revolution as massive as the creation of the internet,[58] has provided a whole new way of concluding transactions, enabling the development of many innovative business models. In the context of this thesis it will be useful, firstly, to briefly explain what this technology is (i) and, secondly, to examine some of the business models based on it (ii). Further below, in Chapter V, we will examine the tax issues that arise in this area, particularly with regard to the most well-known application of this technology: cryptocurrencies.

C. 2. i. A - very brief - explanation of what blockchain technology is

Blockchain technology is a decentralized, distributed ledger system that enables the secure and transparent recording of transactions across a network of computers. A *decentralized* system in the context of blockchain means that unlike traditional centralized systems, blockchain operates on a network of nodes, each maintaining a copy of the entire blockchain. This *peer-to-peer* network allows for the distribution of information across the network, ensuring that no single entity has complete control. The aim of decentralization is to promote transparency, security, and autonomy, reducing the reliance on a single point of failure or potential manipulation. A *distributed* system in the context of blockchain implies that the data and processing tasks are spread across multiple nodes in a network, allowing for redundancy, fault tolerance, performance improvement and

[58] A. Mikroulea, *Ανταγωνισμός και ρύθμιση στην ψηφιακή οικονομία [Competition and regulation in the digital economy]*, Nomiki Bibliothiki, 2023, p. 602

scalability. This architecture ensures that each node maintains an identical copy of the blockchain, enabling the network to operate efficiently and securely even if some nodes fail or go offline.[59]

In short, blockchain technology combines the characteristics of a distributed system (physical spread of nodes and data) and a decentralized system (lack of central control or authority within the network) to create robust, transparent, and secure networks for various applications.

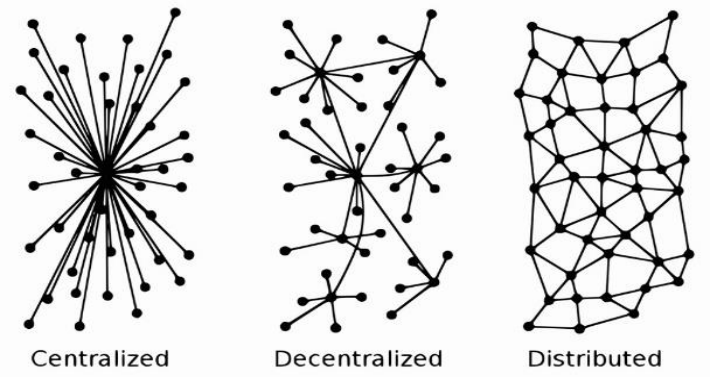

Figure 5: Baran's cetralized, decentralized, and distributed networks[60]

Transactions on the blockchain are grouped into *blocks*, each of which contains a set of valid transactions. These transactions can represent various types of data, such as cryptocurrency transactions, contracts, or other digital information.[61]

To understand how these blocks are linked with each other to create the *blockchain*, it is important to explain first *hashing*. A hash function is a mathematical function that takes an input (or 'message') and returns a fixed-size string of characters, which is typically a sequence of letters and numbers. The output is often referred to as the „*hash value*" or „*hash code*". Each block in a blockchain contains a unique hash value that is generated based on the data in the block. Also, each block contains the cryptographic hash of the previous block,[62] "*like the gene relationship between a parent and his children*",[63] creating a chain of blocks where any alteration to the data in a block would lead to a change in its hash value, thereby alerting the network to potential tampering.This linkage ensures the integrity and security of the entire blockchain.[64]

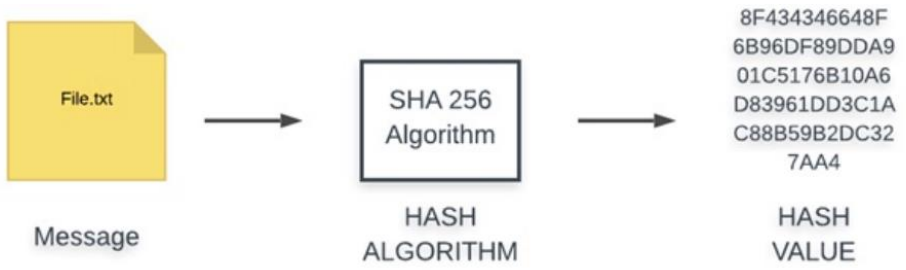

Figure 6: Bitcoin's SHA-256 algorithm keeps the hash value secured [65]

[59] Ibid., pp. 607-608
[60] P. Baran, *On Distributed Communications Networks*, RAND Corporation, 1962, p. 4 fig.1.
[61] S. Namasudra and G. C. Deka, eds. *Applications of Blockchain in Healthcare*, Studies in Big Data, Springer Singapore, 2021, p. v
[62] Ibid., p. 33
[63] L. Kanellos, *Εφαρμογές Τεχνητής Νοημοσύνης στο δίκαιο & στη δικαστική πρακτική [Applications of Artificial Intelligence in law & judicial practice]*, Nomiki Bibliothiki, 2021, p. 215
[64] G. Shrivastava et al., *Cryptocurrencies and Blockchain Technology Applications*, Wiley-Scrivener, 2020, p.8.
[65] Ibid., p.9 fig. 1.3.

To add a new block to the chain, the network must agree on its validity through a *consensus* mechanism. This agreement is typically achieved through a process such as Proof of Work (PoW),[66] Proof of Stake (PoS),[67] or other consensus algorithms, which verify the accuracy and validity of the transactions. The *consensus* between nodes ensures trust and neutrality, in compliance with *whitepapers*, i.e. predefined ethical and moral rules and operating protocols.[68] The process of adding new blocks to the chain is conducted by *miners*.[69]

Once a block is added to the blockchain, it becomes immutable, meaning that the data recorded within it cannot be altered retroactively without altering all subsequent blocks. This feature ensures the integrity and security of the transaction history.[70]

Blockchain technology uses public and private keys to ensure secure transactions. The public key is a random number that usually consists of several digits and is essentially the public address of each user. The public key, which can be disclosed to third parties, is used to encrypt data and the private key is used to decrypt it.[71]

C. 2. ii. Blockchain-based business models

Blockchain technology finds applications in various fields, including supply chain,[72] finance, management, data storage, healthcare, Internet of Things,[73] and voting systems.[74] Its decentralized and transparent nature enables secure and efficient transactions while reducing the risk of fraud and manipulation.[75] As a result, an array of digital business models has emerged, leveraging blockchain technology to revolutionize traditional processes and create innovative solutions. These models capitalize on the immutable and distributed ledger system of blockchain, ensuring data integrity, transparency, and accountability.

One exemplary application of blockchain technology is witnessed in the realm of cryptocurrency exchanges. These platforms facilitate the trading of various digital assets and cryptocurrencies, providing users with a secure and efficient marketplace for buying and selling tokens. The decentralized and transparent nature of blockchain technology ensures that these transactions are conducted with a high level of security and trust. Moreover, the revenue model for these exchanges is primarily based on transaction fees and additional services related to the management and exchange of digital assets. This model has not only revolutionized the financial landscape but has

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[66] Kanellos, 2021, p.33

[67] J. Chalopin and R. Trehan, *A proof of stake explanation*, DELTEC, available at: https://www.deltecbank.com/2021/07/14/a-proof-of-stake-explanation/?locale=en (accessed 31/10/2023)

[68] Kanellos, 2021, p. 215

[69] M. Tumpel and J. Kofler, *Tax Treatment of Digital Currencies*, in *Tax and the Digital Economy: Challenges and Proposals for Reform*, Series on International Taxation 69, Kluwer Law International B. V, 2019, pp.185-186

[70] Mikroulea, p. 611

[71] K. Logaras, *Η τεχνολογία Blockchain, οι εφαρμογές της και οι νομικές πτυχές της [Blockchain technology, its applications and legal aspects], NAFTEMPORIKI, sec. Απόψεις [Opinions],* 21 June 2018, available at: https://www.naftemporiki.gr/opinion/516834/i-technologia-blockchain-oi-efarmoges-tis-kai-oi-nomikes-ptyches-tis/ (accessed 31/10/2023)

[72] E. Hofmann, U. Strewe, and N. Bosia, *Supply Chain Finance and Blockchain Technology: The Case of Reverse Securitisation*, SpringerBriefs in Finance, Springer Cham, 2018, pp. 35–49

[73] Namasudra and Deka, pp.v and 148

[74] A. Averin, V. Bogatyreva, and V. Degtyarev, *Review of E-Voting Systems Based on Blockchain Technology*, AIP Conf. Proc. 2910, 020032, 2023

[75] I. Igglezakis, *Το Δίκαιο Της Ψηφιακής Οικονομίας [Law of the Digital Economy]*, Sakkoulas, 2022, pp. 43 et seq.; A. Mikroulea, p. 602

also paved the way for the broader adoption of digital currencies and decentralized financial systems.[76]

Additionally, Blockchain-as-a-Service (BaaS) providers offer blockchain infrastructure and tools as a service, enabling businesses to deploy blockchain-based applications without the need for in-house blockchain development. In fact, the integration of the elements of the blockchain architecture into the cloud has led to the creation of the so-called *blockchain-cloud*. In this regard, the provider of the cloud service provides cloud infrastructure to companies operating in the blockchain space so that they can develop and operate their own blockchain applications in the new environment.[77] The provider is in charge of keeping the infrastructure operational, while the user is able to concentrate on the operation of the blockchain. The user only needs to pay the cloud provider the agreed-upon amount to access the service.[78]

Also, Decentralized Finance (DeFi) platforms have also gained prominence, providing decentralized financial services such as lending, borrowing, and staking, with revenue sourced from transaction fees, interest rates, and other financial services. Furthermore, Non-Fungible Token (NFT) marketplaces facilitate the trading of digital assets represented as NFTs, earning revenue through transaction fees and commissions.

Other models include blockchain-based gaming platforms that allow players to own in-game assets and earn cryptocurrencies, blockchain-based identity verification services that generate revenue through subscription fees and service charges, and supply chain transparency platforms that use blockchain to ensure transparent and traceable supply chain solutions, generating revenue through subscription models and transaction fees.

Moreover, blockchain-powered energy trading platforms enable peer-to-peer energy trading, earning revenue through transaction fees and service charges.

Lastly, blockchain-based real estate platforms facilitate real estate asset transactions, generating revenue through transaction fees, commissions, and management fees.

Examples include:

- Cryptocurrencies: Binance is one of the world's largest cryptocurrency exchanges, providing a user-friendly platform for individuals and institutions to trade a wide range of digital assets and cryptocurrencies. Binance generates revenue through transaction fees and charges for services related to trading, withdrawal, and other value-added offerings within its ecosystem
- BaaS: Microsoft Azure offers a range of blockchain services that allow businesses to build, deploy, and manage blockchain applications.
- DeFi: An example of such a platform is Uniswap, a decentralized exchange that allows for automated transactions between cryptocurrency tokens on the Ethereum blockchain through the use of smart contracts. It also enables users to provide liquidity to the platform and earn fees in return. Uniswap generates revenue through transaction fees that occur when users swap different types of cryptocurrency tokens on the platform. A small percentage of each transaction is charged as a fee, which contributes to Uniswap's revenue.
- NFT: OpenSea is one of the largest platforms for trading digital assets such as digital art, collectibles, and virtual real estate. It generates revenue primarily through transaction fees and commissions. Every time a digital asset, such as an NFT, is bought, sold, or traded on the platform, OpenSea charges a fee. OpenSea also offers premium services or features for a fee, providing additional revenue streams. Additionally, partnerships

[76] D. Sharma, *Tech Innovation and New Age Business Models*, in *Global Trends in Technology Startup Project Development and Management*, Springer, Cham, 2023, 37–56
[77] A. Kousouni-Pantazopoulou, *Cloud Computing και Νομικά Ζητήματα [Cloud Computing and Legal Issues]*, Nomiki Bibliothiki, 2022, pp. 55 et seq.
[78] Mikroulea, p. 603

with creators and brands contribute to the platform's overall revenue through collaboration and promotional activities.

- Gaming: Axie Infinity is a blockchain-based game that allows players to collect, breed, raise, battle, and trade token-based creatures called Axies. Players can earn cryptocurrencies through various in-game activities and by participating in battles and tournaments. It generates revenue through the sale, "breeding", and trading of digital creatures called "Axies", along with in-game transactions and tournaments within its gaming ecosystem. For example, players can breed their Axies to create new and unique digital creatures. The breeding process typically incurs a fee, which contributes to the platform's revenue.
- Identity verification: Civic provides secure and efficient identity verification solutions using blockchain technology. Users can securely store and manage their identities and personal information, allowing them to control and authorize access to their data. Civic generates revenue through subscription fees and service charges for businesses and organizations that utilize its identity verification services.
- Supply chain transparency: VeChain uses blockchain technology to track and verify the authenticity and quality of products throughout the supply chain process. By recording each stage of the supply chain on the blockchain, it ensures transparency and traceability, which helps in preventing counterfeiting and ensuring product authenticity. VeChain generates revenue through subscription models and transaction fees for its supply chain management services.
- Energy trading: Power Ledger enables P2P energy trading, allowing consumers to trade excess renewable energy directly with one another. It uses blockchain technology to track energy production and consumption. The platform earns revenue through transaction fees and service charges.
- Real estate: Propy facilitates real estate transactions by utilizing blockchain technology to streamline the process of buying, selling, and investing in properties. It generates revenue through transaction fees, commissions from property sales, and management fees for additional services related to real estate transactions and property management.

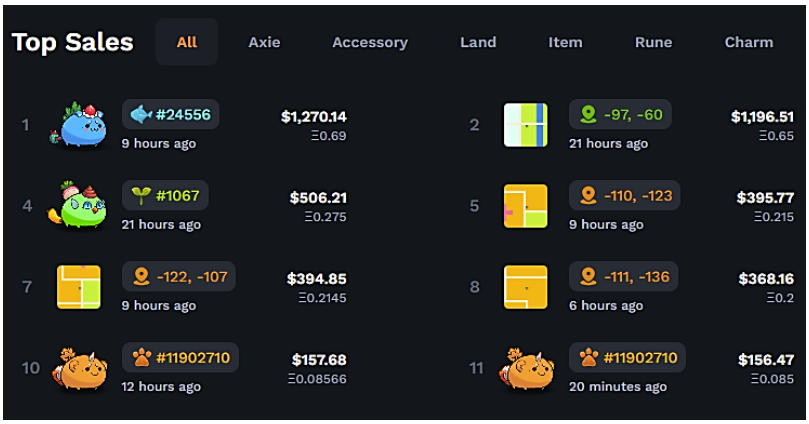

Figure 7: In the Axie Infinity Marketplace, players can purchase "Axies", "land","runes", etc. [79]

C. 2. iii. Smart Contracts

Some blockchain platforms, such as Ethereum, support *smart contracts*, which are self-executing contracts with the terms of the agreement directly written into code. Smart contracts automatically execute and enforce transactions when predefined conditions are met, eliminating the need for intermediaries in many contractual agreements. Payment of the price of each transaction may be made in legal tender, such as euros, dollars, pounds or yen. Therefore, their execution does not necessarily depend on the blockchain and cryptocurrencies. However, their use has taken off thanks to the spectacular development of distributed ledger technologies (DLTs).[80]

[79] Source: https://app.axieinfinity.com/marketplace
[80] V. Gupta, *A Brief History of Blockchain*, Harvard Business Review, 28 February 2017.

The classification of chain codes as "smart legal contracts" has sparked extensive international debate. While some jurisdictions like France and the UK consider existing laws sufficient, others such as Italy and the USA have introduced specific regulations recognizing their legal status. These measures are often part of broader legislation on distributed ledger technology and cryptocurrencies.[81]

Examples of implementation of smart contracts can be found in the energy market. With smart contracts a producer and a consumer can buy or sell energy or "green certificates". In practice, the produced energy and certificates are converted into "tokens" and registered on the blockchain. The tokens are then directed to the buyer and payment is made based on the terms of the smart contract. Importantly, energy purchases can be made by consumers and on a small scale by geographically close producer-consumers (prosumers). In terms of European law, art. 18 of the Directive 2018/2001 on the promotion of the use of energy from renewable sources,[82] indirectly recognizes the possibility of energy trading between peers (P2P), i.e. producer, supplier and consumer, with automatic execution and settlement of transactions. There are currently several decentralised blockchain energy exchange platforms in operation, either microgrids for private individuals (such as the local Brooklyn Microgrid[83] platform in New York, which generates electricity via solar panels and photovoltaic panels installed on the roofs of buildings) or energy trading between companies (Conjoule in Germany, Sunchain in France, OneUp in the Netherlands, Pówer-ID in Switzerland, NRGCoin in Belgium, etc.).[84]

The smart contracts' potential to automate various processes and transactions influences the tax implications of such transactions. Also, with their ability to self-execute predefined terms, these contracts can automatically calculate, withhold, and remit taxes, thereby reducing the burden on taxpayers and ensuring timely and accurate tax payments.

C. 3. Artificial Intelligence, Machine Learning, Robotics

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, including learning, reasoning, and self-correction.[85] Machine Learning (ML) is a subset of AI that allows systems to learn from data and improve their performance over time without explicit programming.[86] Robotics involves the design, creation, and use of robots to automate tasks, assist humans, and execute complex functions.[87]

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[81] L. Kanellos, *SMART CONTRACTS*, Nomiki Bibliothiki, 2022, pp. 133-135

[82] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (Text with EEA relevance.), PE/48/2018/REV/1, ELI: http://data.europa.eu/eli/dir/2018/2001/oj

[83] E. Mengelkamp et al., *Designing microgrid energy markets: A case study: The Brooklyn Microgrid*, https://www.sciencedirect.com/science/article/abs/pii/S030626191730805X

[84] Kanellos, 2022, pp.115-116

[85] A. Michailaki, *Δίκαιο και Δεοντολογία στις εφαρμογές Επαυξημένης Πραγματικότητας [Law and Ethics in Augmented Reality applications],* Nomiki Bibliothiki, 2022, p. 189.

[86] Ibid., p.190; ibid: "*The expression that computers 'learn' is more of a metaphor, as it does not imply that computer systems artificially reproduce the advanced cognitive systems believed to be involved in human learning. Rather, we can consider that these algorithms learn in a functional sense: they have the ability to alter their behaviour through experience, with the aim of enhancing their performance in some task"*

[87] Ibid., pp. 191-192

AI has facilitated the development of many diverse business models, which are centered around enhancing operational efficiency, personalizing customer experiences, and optimizing decision-making processes.

Examples:

- AI-Powered Customer Support: Companies like Zendesk and Intercom leverage AI-driven chatbots and virtual assistants to provide 24/7 customer support, resolving queries, and addressing customer concerns in real-time. These companies typically generate revenue by offering subscription-based models for their AI-driven customer support platforms. Additionally, they may offer add-on services such as advanced analytics, custom integrations, and dedicated support, which contribute to their overall revenue stream.
- Automated Data Analysis and Decision Support: IBM and SAS offer AI-powered data analysis platforms that enable businesses to process large datasets, extract valuable insights, and make data-driven decisions. These AI-driven analytics tools enhance operational efficiency, facilitate strategic planning, and foster a culture of informed decision-making within organizations. Companies such as IBM and SAS generate revenue by offering subscription-based models for their software and services.
- Robotic Process Automation: Automation Anywhere and UiPath specialize in providing AI-driven robotic process automation solutions that streamline repetitive tasks, data entry, and workflow management. These RPA models optimize business processes, reduce operational costs, and improve overall productivity by automating mundane and rule-based tasks.

These companies typically generate revenue by offering subscription-based models for their AI-driven platforms.

C. 4. Metaverse

The term "Metaverse" refers to a collective virtual shared space, a digital universe where individuals can interact with each other and with digital objects in a seemingly real environment.

The Metaverse integrates various technologies, such as *virtual reality*, *augmented reality*, and the internet, to create a seamless and immersive experience for its users. This digital realm enables the blending of physical and virtual worlds, allowing for the development of complex and interactive simulations that can simulate the real world or even create entirely new virtual environments.[88]

Consequently, the Metaverse serves as a platform for diverse social and economic activities, fostering new forms of human interaction, collaboration, and commerce, beyond the limitations of physical space and geographical boundaries. As an evolving concept, the Metaverse has the potential to revolutionize numerous industries, including entertainment, education, healthcare, and business. It offers unprecedented opportunities for innovation and creativity, allowing individuals and organizations to explore novel forms of expression, communication, and collaboration in a virtual environment.[89]

[88] Ibid., pp. 109 et seq.
[89] Ibid., pp. 113 et seq.

Figure 8: The metaverse for art education[90]

Examples of companies actively exploring a presence in the Metaverse:

- Roblox is an online platform that allows users to create and play games created by other users. It embodies certain aspects of the Metaverse by offering a virtual space where users can socialize, play, and create content within a shared digital environment.
- Fortnite, primarily known as a popular online video game, has been expanding its features to create a more immersive and interactive virtual environment, resembling aspects of the Metaverse. It has hosted virtual events and concerts, demonstrating the potential for social interactions within a digital universe.
- Facebook (now Meta Platforms) has been vocal about its vision for the Metaverse, with plans to build an immersive virtual environment that facilitates various forms of interaction, communication, and collaboration. It aims to create a shared virtual space where users can connect, work, and play.

D. Common characteristics of digitalised business models

Navigating the complexities inherent in the taxation of the digital economy would be impossible without spotting first the shared attributes inherent in digitalized business models. This section therefore focuses on some of their most prominent common characteristics, namely mobility (1), invisibility and liquidity (2), dependency on data and user participation (3), and tendency toward monopoly (4).

D. 1. Mobility - Cross-jurisdictional "scale without mass"

In recent years, the global business landscape has witnessed a significant transformation due to the interplay of globalization and digitalization. Businesses are now able to distribute their operations across various countries, thereby gaining access to a wider customer base worldwide. This shift has been particularly expedited by the integration of digital technology, allowing companies to engage economically with different jurisdictions without a substantial physical presence. Through remote technology, businesses, regardless of their location or size, have been able to establish a significant economic footprint in multiple regions.

This changing dynamic has prompted a notable dematerialization of traditional business models, especially in the context of highly digitalized firms. The ongoing process of digitalization, albeit still in its initial stages, has already begun reshaping the way businesses interact with their

[90] Source: X. Yang et al., *The Impact of Immersive Virtual Reality on Art Education: A Study of Flow State, Cognitive Load, Brain State, and Motivation*, Education and Information Technologies, 27 July 2023

customers. Even small enterprises now have the opportunity to expand their reach globally, a privilege once reserved for large multinational corporations. This progression signifies a broader trend in the global economy, where the physical presence of businesses is becoming less critical in establishing a significant economic presence in various jurisdictions.

Consequently, the convergence of globalization and digitalization has enabled businesses to attain a considerable scale across different locations without the need for physical mass. While the digital revolution has certainly catalyzed this trend, it is important to recognize that the global economic expansion of businesses transcends digital business models alone, reflecting a more comprehensive facet of the globalized economic landscape.[91]

D. 2. Invisibility and liquidity: Reliance upon intangible assets, including intellectual property rights

Digital business models share a distinctive reliance on intangible assets, particularly intellectual property rights. These intangible assets encompass a wide array of elements, including non-patent technology, trademarks, copyrights, and trade secrets. For instance, companies often develop proprietary software, algorithms, and innovative technologies that are central to their operations. These assets enable firms to create competitive advantages, secure market dominance, and safeguard their innovations from being replicated or exploited by competitors. Moreover, the right of intangible assets can easily be distributed and transferred among relevant enterprises, and their ownweship can easily be separated from development activities associated with such assets. Thus, the management of these intangible assets significantly influences the geographical allocation of a business's profits, thus underscoring the importance of their strategic positioning.[92]

D. 3. Dependency on data and user participation

The business models of the digital economy commonly exhibit a strong reliance on data as a key characteristic. The increasing use, collection, and analysis of data have significantly contributed to the improvement of products and services, leading to a positive impact on productivity growth. Effective data analysis has enabled firms to enhance their profitability by better understanding and leveraging consumer behavior through precise pricing strategies. The benefits derived from data analysis are particularly enhanced when a large amount of customer-specific data is available, leading to more comprehensive insights. Such extensive data sets enable digital businesses to target their online advertisements more accurately, catering to specific groups of users.[93] With the increasing digitization of global transactions and interactions, the trend indicates that more businesses will benefit from the collection, analysis, and potential monetization of data in the future.[94]

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[91] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS,* Paris: OECD Publishing, 2018, paras. 131-134
[92] Ibid., para. 135; Xu, p. 229
[93] Xu, p. 229
[94] Deloitte, '*Data Is the New Gold: The Future of Real Estate Service Providers'*, February 2018, available at: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/real-estate/Data_is_the_new_gold.pdf (accessed 31/10/2023)

In the following segments, we will embark on an insightful exploration of two interrelated themes: value creation (i) and user participation (ii) . The initial discussion will center on the foundational understanding of these concepts, laying the groundwork for a comprehensive examination of their complex dynamics. Moving forward, in Chapter III, we will conduct a more in-depth analysis of the associated tax challenges.

D. 3. i. Value creation

D. 3. i. a. What is value creation?

Defining the concept of value creation poses a significant challenge, as it is distinct from the straightforward idea of profit generation.[95] Contemporary policies in international taxation emphasize the need to ensure fair taxation based on where both profits and value originate. However, the distinction between profits, which are subject to income tax, and the less tangible notion of value creation is not explicitly outlined in tax laws. In the context of digital operations, attention has shifted towards recognizing new factors contributing to taxable profits, especially the significance of intangible assets and the role of 'creation' in emphasizing sources of production, such as research and technology.[96]

The notion of value creation is often seen as a broad and context-dependent concept,[97] closely associated with the traditional principle of the source of income.[98] It has led to an extension of the understanding of a business's permanent establishment, considering factors like sales volume, user counts, and database interactions. This shift has the potential to change the traditional understanding of the location and taxable profits of a business, allowing income source states to encompass a wide range of income-generating activities, even without a physical presence.[99]

Moreover, the argument persists that there is a constant human intellectual element behind value creation, irrespective of the digital or non-digital economy. This emphasizes the role of human intelligence in efficiently utilizing tools like algorithms for data processing, where the role of the programmer writing the algorithms becomes crucial in attributing value to the addition of intellectual elements. A fair tax system requires an understanding of 'who does what and where,' without drawing a distinct line between digital and traditional economies.[100]

As discussed further on in Chapter IV, among the approaches adopted by the OECD and the European Commission there is the view that the location of value creation and subsequent taxation aligns with the point of *consumption*. This acknowledges the involvement of consumers or users in utilizing the market infrastructure for digital goods and services, suggesting that the location of

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[95] E. Theocharopoulou, *Η Άμεση Φορολογία Της Ψηφιακής Οικονομίας Και η Δημιουργία Αξίας [Direct Taxation of the Digital Economy and Value Creation]* , Kyriakidis Bros Publications S.A., 2021, p.83

[96] F. Vanistendael, *An Octogenarian on Value Creation*, Tax Notes International, June 2018, vol. 90, no. 13, 1385–88, pp. 1386-87.

[97] J. Monsenego, *Value Creation and Transfer Pricing*, in *Taxation and Value Creation*, EATLP International Tax Series, IBFD, 2021, 740, p.107, footnote 2

[98] W. Haslehner and M. Lamensch, *General Report on Value Creation and Taxation: Outlining the Debate* in *Taxation and Value Creation*, EATLP International Tax Series, IBFD, 2021, pp. 5-9

[99] Vanistendael, p. 1387

[100] E. C.C.M. Kemmeren, '*Should the Taxation of the Digital Economy Really Be Different?*', EC Tax Review 27, no. 2, 1 April 2018, pp. 72-73; Theocharopoulou, *Η Άμεση Φορολογία Της Ψηφιακής Οικονομίας Και η Δημιουργία Αξίας [Direct Taxation of the Digital Economy and Value Creation]*, p.86

users should be considered when distributing taxes, acknowledging their role in the value creation process within the digital economy.[101]

D. 3. i. b. The process of value creation

According to the OECD, the process of value creation "*can be described as a value cycle involving several interconnected phases: data origination [...], data collection leading to big data [...], data analytics [...], [the establishment of a] knowledge base [...], and data-driven decision-making [...]"*,[102] each playing a crucial role in the generation of economic value within the business ecosystem.

First, digital data is generated through various online activities, including transactions, production, and user-generated content. Simultaneously, the collection of offline data is facilitated by the integration of sensors on physical objects, leveraging the capabilities of the Internet of Things.

Data accumulation, stored across different entities, escalates in volume, leading to *big data*. However, the realization of its full economic potential necessitates comprehensive analysis. Although the mobility of data sources might be limited, the databases housing pertinent information remain dynamic and adaptable.

The following and fundamental step in deriving economic value is th processing and interpretation of data. This analytical process is not constrained by a specific geographical location, enabling businesses to dissociate data storage, analysis, and deployment. Proficient data scientists or automated algorithms commonly oversee this analytical phase.

Insights obtained from the analytical processes serve as the foundation for generating economic value, notably evident in refining marketing strategies and implementing price differentials, a common practice in e-commerce businesses. Also, the continual enhancement of knowledge bases is achieved through various means, such as the integration of machine learning processes.

Finally, the conclusions drawn from the earlier phases significantly influence the decision-making procedures, ultimately leading to the substantial creation of economic value across various business sectors.[103]

For example, Amazon's comprehensive utilization of customer data and advanced analytics across various facets of its operations exemplifies how data-driven strategies can lead to substantial value creation in the digital economy.

Through its vast e-commerce platform, Amazon collects and analyzes extensive customer data, including browsing history, purchase patterns, and demographic information. This data enables Amazon to personalize user experiences, recommend products tailored to individual preferences, and optimize pricing strategies.[104]

Moreover, Amazon's data-driven decision-making extends to its supply chain and inventory management. By utilizing advanced analytics and machine learning, Amazon forecasts consumer demand, streamlines logistics, and optimizes inventory levels, ensuring efficient product availability and timely deliveries. This data-driven approach has

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[101] Theocharopoulou, *Η Άμεση Φορολογία Της Ψηφιακής Οικονομίας Και η Δημιουργία Αξίας [Direct Taxation of the Digital Economy and Value Creation]*, p.86.
[102] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018,* para. 142
[103] Ibid.
[104] R. Pathak, *How Amazon Uses Big Data?*, Analytics Steps, available at: www.analyticssteps.com, https://www.analyticssteps.com/blogs/how-amazon-uses-big-data (accessed 31/10/2023).

significantly reduced operational costs and enhanced customer satisfaction, propelling Amazon's growth as a global e-commerce leader.[105]

Furthermore, Amazon's cloud computing subsidiary, Amazon Web Services (AWS), utilizes data analytics to offer a wide array of cloud-based services, including data storage, computing power, and machine learning capabilities. By leveraging data insights, AWS assists businesses in optimizing their operations, enhancing security measures, and fostering innovation, thus contributing to their overall success and value creation.[106]

D. 3. ii. User participation

In close relation to the issue of value creation discussed above, the contemporary digital landscape is marked by an increasing emphasis on user participation. This participation encompasses a range of activities, from the generation of user-generated content such as reviews, comments, and posts to passive data collection through user behavior monitoring. Notably, platforms like social networks heavily rely on user contributions in the form of content creation, interaction, and engagement to foster vibrant communities and sustain business growth.[107]

Several countries underscore the significance of user participation as a crucial driver of value creation in the digital business domain. These states also recognize the role of user engagement in building trust, bolstering brand reputation, and expanding user networks within the digital landscape. On the other hand, some states view user data collection and participation as transactions between users and digital businesses, often involving non-monetary compensation. They argue that the acquisition of valuable user data does not necessarily attribute profit solely to the digital business. For these countries, user-generated data is considered akin to any other business input sourced from third-party suppliers.[108]

The varying perspectives on the role and value of user data can significantly impact the interpretation of tax challenges associated with evolving business models. However, reconciling these differing viewpoints and addressing long-term tax challenges necessitates further investigation, as detailed in Chapter III.

D. 4. Tendency toward monopoly

The modern digital market possesses an inherent tendency toward monopolization. In this context, digital platforms function within a two-way market structure, facilitating user connections at both ends. This results in a mutually reinforcing effect, where an increase in users at one end enhances the attractiveness of the platform for users at the other end, subsequently fostering stronger user retention (*network effect*). Simultaneously, given the significant reliance of the digital economy on data, multinational corporations' control over user data can establish data barriers that impede potential competitors and expedite the consolidation of their monopoly status. Moreover, the advancement of the digital economy is contingent on the utilization of algorithms. Through

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[105] A. V. Kalvakuntla, *How Amazon Uses Data Analytics to Deliver Packages Faster*, 30 April 2023, available at: https://www.linkedin.com/pulse/how-amazon-uses-data-analytics-deliver-packages-kalvakuntla/ (accessed 31/10/2023); Michail A., *How Amazon Uses Data Science and Analytics to Drive E-Commerce Success*, 11 April 2023, available at: https://www.linkedin.com/pulse/how-amazon-uses-data-science-analytics-drive-success-michael-ampofo/ (accessed 31/10/2023).

[106] https://aws.amazon.com/ (accessed 31/10/2023)

[107] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*., paras. 143-157

[108] Ibid., paras. 158-161.

potential collusion, multinational companies can exploit algorithms to gain an edge in cross-market competition, thus consolidating their monopolistic position.[109]

III. Challenges and implications in taxing the digital economy

The evolving digital economy, due to its particular characteristics set out in the previous chapter, has posed multifaceted challenges to the established rules of international taxation. This chapter delves into the complex web of challenges and implications that arise when taxing digital businesses. It explores how the fundamental principles of international taxation are facing unprecedented pressures that necessitate adaptation to the evolving dynamics of the digital marketplace.

Section A of this chapter analyses the challenges to the fundamentals of international taxation. Section B of the chapter focuses on contemporary changes in international taxation, examining the need to update traditional concepts to adapt to the digital age. The purpose of this chapter is to lay the groundwork for understanding the underlying objectives and policies behind measures taken at the global level, which will be discussed in the immediately following chapter (IV).

A. Challenges to fundamental principles of international taxation

The principles of international taxation serve as the cornerstone for regulating cross-border economic activities and ensuring equitable tax contributions. However, the advent of the digital economy has posed significant challenges to these fundamental principles, reshaping the landscape of global taxation. In this unit, we examine how the digital economy has tested some of the basic tenets of international taxation. While there are many principles to explore, the following subsections focus on four key principles that have faced particular scrutiny in the digital age: territoriality (1), fairness (2), avoidance of double taxation (3), and prevention of tax evasion and avoidance (4). By delving into these principles, we aim to emphasize the practical impact of the characteristics of digital businesses outlined in the previous chapter and provide a segue into the subsequent discussion on global efforts and initiatives aimed at addressing these issues.

A. 1. Territoriality and the “genuine link” requirement

The principle of territoriality is a fundamental concept in public international law that asserts the jurisdiction of a state within its territorial boundaries. It implies that a state has the exclusive right to exercise its authority, including the application of its laws and regulations, within its own territory. This principle forms the basis for the regulation of various activities, such as law enforcement, taxation, and governance, within a state's boundaries. However, international law does not contain a general prohibition on states to extend the application of their laws and the jurisdiction of their courts to persons and property outside of their territory.[110] In fact, in the 1927

[109] Xu, p. 130; Z. Pan et al., ‘*Research on Platform Monopoly Governance Strategy under Digital Economy*’, Frontiers in Business, Economics and Management 3, no. 2 (17 March 2022): 40–42, p. 40.
[110] J. Kokott, ‘*The “Genuine Link” Requirement for Source Taxation*’, in *Tax and the Digital Economy: Challenges and Proposals for Reform*, Series on International Taxation 69, Kluwer Law International B. V, 2019, p. 11.

Lotus case,[111] the Permanent Court of International Justice ruled that, in the absence of a specific prohibition in international law, a state may exercise its jurisdiction beyond its territory. However, this jurisdiction should not violate the rights of other states or contravene established principles of international law,[112] such as the principle of non-intervention, the principle of state sovereignty, and customary international law.

In international tax law, the principle of territoriality governs the allocation of taxing rights to different jurisdictions. It typically determines that a country has the right to tax income, profits, or gains that arise within its territorial boundaries.[113] This means that a state can impose taxes on income generated from activities conducted within its jurisdiction, regardless of the nationality or residency of the taxpayer.

Moreover, in the *Nottebohm* case,[114] the International Court of Justice emphasized the significance of the *genuine link* requirement in determining an individual's claim to nationality. The case highlighted that a mere formal acquisition of nationality, without substantial evidence of a genuine connection with the state, may not be recognized by international law. This principle essentially implies that there must be a meaningful and substantial connection between an individual and a state for that individual to claim the nationality or citizenship of that state.[115]

In the context of international tax law, the genuine link requirement is crucial when determining an individual or entity's *tax residency*. Tax authorities often consider various factors, such as the individual's habitual residence, the location of their primary assets, the source of their income, and their economic and social ties, to establish whether there exists a genuine link between the taxpayer and the jurisdiction in question, i.e. a "*nexus*" to serve as the legal basis for taxation. This determination is vital as it affects the taxpayer's obligation to pay taxes in that particular jurisdiction.[116]

The conventional economy predominantly relies on tangible operations and physical establishments, thereby inherently associating conventional enterprises with the geographical boundaries of a particular state. Consequently, the classical territoriality principle, which governs the taxation of income in the realm of international tax law as described above, effectively serves to encompass and regulate the pertinent tax obligations stemming from conventional trade. Hence, the prevailing approach typically involves the taxation of companies based on their location of incorporation (seat) or central administrative office, while there are also cases where income is taxed in the state of its source or in the mode of operation of the permanent establishment of a company.[117]

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[111] *The case of the SS Lotus (France v Turkey)*, 1927, P.C.I.J. Series A, No. 9.
[112] Ibid., at. 19.
[113] R. S. Avi-Yonah, *International Tax as International Law: An Analysis of the International Tax Regime*, Cambridge Tax Law Series, Cambridge University Press, 2007, p.10
[114] *Nottebohm (Lichtenstein v Guatemala)*, Jugdement, I.C.J. Rep. 1955, at 4 et seq.
[115] K. Chatzikonstantinou, Ch. Apostolidis, and M. Sarigiannidis, *Θεμελιώδεις Έννοιες στο Διεθνές Δημόσιο Δίκαιο*, 2nd ed., Sakkoulas Publications, 2014, pp. 140-141.
[116] Th. Fortsakis and A. Tsourouflis, *Φορολογικό Δίκαιο [Tax Law]*, 7th ed., Nomiki Biliothiki, 2022, p.313; K. D. Finokaliotis, *Φορολογικό δίκαιο [Tax Law],* 5th ed., Sakkoulas Publications, 2014, pp. 294-295; A. K. Singh, *Exploring the Nexus Doctrine In International Tax Law*, Kluwer Law International B.V., 2021.
[117] E. Theocharopoulou, *Προς Ένα Νέο Μοντέλο Για Τη Φορολόγηση Της Ψηφιακής Οικονομίας (e-Commerce, e-Gaming): η Μετάβαση Από Τη Φορολόγηση Στη Χώρα Κατοικίας (Residence) Στη Φορολόγηση Στη Χώρα Αγοράς/ Κατανάλωσης (Market) [Towards a New Model for the Taxation of the Digital Economy (e-Commerce, e-Gaming): the Transition from Residence Taxation to Market/ Consumption Taxation]* in *Προκλήσεις Και Ευκαιρίες Σε Ένα Ραγδαία Μεταβαλλόμενο Διεθνές Επιχειρηματικό Περιβάλλον (1ο Συνέδριο Φορολογικού Δικαίου) [Challenges and*

However, the principle of territoriality is being challenged in the context of the digital economy, as the rise of online transactions and globalized business activities often blurs the lines of territorial boundaries, making it difficult to attribute income to a specific jurisdiction.

In particular, the challenges to the principle of territoriality in the digital economy primarily stem from the difficulties in determining the appropriate jurisdiction for taxing income generated from digital transactions. Unlike traditional "brick-and-mortar" businesses, digital companies can operate and conduct substantial business activities in multiple jurisdictions without having a physical presence in those locations. This lack of physical presence makes it challenging for tax authorities to establish a clear link between the source of income and a specific jurisdiction,[118] thus complicating the application of the territoriality principle in international taxation. Moreover, the digital economy often relies on intangible assets and digital goods or services that can be easily provided and distributed across borders,[119] further complicating the determination of the source of income and the appropriate jurisdiction for taxation.

Relevant to this discussion is US Supreme Court's decision in the *South Dakota v Wayfair, inc.* case,[120] which removed the settled physical presence requirement for state taxation of out-of-state business. This requirement, based on the 1992 Supreme Court ruling in *Quill Corp. v. North Dakota*,[121] prevented states from imposing taxes on remote, often small-scale vendors who lacked a physical presence in the state, operating solely through online transactions with the state's residents. With the elimination of this requirement, states are now permitted to levy sales on businesses primarily engaged in online transactions with the state. Notably, this ruling has been subject to criticism on the argument that, while major corporations like Amazon will no longer be able to use their substantial online presence to evade state taxes, the true impact of this decision will be felt most strongly by smaller businesses, who will face the challenge of navigating complex tax regulations across various states.[122]

A. 2. Tax fairness

The principle of tax fairness traces back to the principle of *tax equality* as proposed by Adam Smith. According to Smith, individuals should contribute to the government based on their respective abilities, indicating that taxation is essentially a fee paid in return for the protection and services provided by the government.[123] This idea implies that the distribution of public spending should be proportionate to each individual's economic capacity, which serves as a measure of the benefits they receive from the government. Consequently, Smith suggested that the tax burden should be evenly distributed among individuals with similar economic capabilities. This principle

Opportunities in a Rapidly Changing International Business Environment (1st Tax Law Conference)], Επιχειρηματικότητα και Φορολογία [Entrepreneurship and Taxation], Nomiki Bibliothiki, 2021, p. 61; Kokott, pp.15-16

[118] Fortsakis and Tsourouflis, p. 341

[119] OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018*., para. 135

[120] *South Dakota v. Wayfair, Inc*. 128 S. Ct 2080 (2018)

[121] *Quill Corp. v. North Dakota,* 504 U.S. 298 (1992)

[122] J. Inscore, *The Amazon Argument: An Examination of South Dakota v. Wayfair and a Discussion of Its Implications*, Campbell Law Review 41, no. 2 (2019): 531–58.

[123] "*the subjects of every State ought to contribute towards the support of the Government as nearly as possible in proportion to their respective abilities, i.e. in proportion to the revenue which they respectively enjoy under the protection of the State*", Adam Smith, *An inquiry into Nature and Causes of the Wealth of Nations 891*, Clarendon Press, 1979

of tax equality has been widely accepted since its incorporation into the French Declaration of the Rights of Man and of the Citizen in 1789[124].[125]

The most commonly adopted tax fairness benchmarks (or norms) are the *benefit* principle and the *ability-to-pay* principle.[126] On the one hand, the benefit principle suggests a direct correlation between taxpayers' contributions and the benefits received from government services. It operates either as a premium for societal security or as an exchange mechanism for the overall public services provided.[127] On the other hand, the ability-to-pay principle serves as a complementary solution to the benefit principle, emphasizing an individual's economic sacrifice rather than the benefits received from the state. It focuses on a fair distribution of tax burdens, ensuring that individuals with higher possessions bear a proportionate share of the sacrifice. This principle disregards the subjective utility of the taxpayer's wealth and relies solely on their possessions as a measure of the government's services. Additionally, it has evolved to encompass not just monetary possessions but also factors like knowledge and connections that contribute to a person's productivity. In some interpretations, it is linked to the idea of solidarity among individuals in a community.[128]

Having defined the content of tax fairness (or at least its core content), the reasonable question arising is: is the taxation of companies for the income generated in a jurisdiction without any physical presence fair?

Taxing digital businesses with no physical presence within a specific jurisdiction presents a complex challenge to the application of the benefit principle. In traditional economies, the visibility of physical infrastructure highlights the clear correlation between the benefits received and the corresponding taxation. Roads and energy provisions, for example, are tangible contributions that directly and tangibly impact businesses' operations. Consequently, levying taxes on such companies aligns with the benefit principle as their use of public services and infrastructure is readily apparent.

Conversely, in the world of digital businesses operating without a physical presence in a particular jurisdiction, identifying the benefits they derive from the state becomes more difficult. The absence of a visible footprint raises the question of what these companies truly receive from the government. While the lack of physical infrastructure might suggest a reduced burden on public services, the digital sphere relies on a different set of public services crucial for its operation.

In essence, digital businesses, despite their lack of physical presence, heavily rely on an array of state-provided intangible services that foster a conducive environment for their operations. These services include legal protections ensuring intellectual property rights, cyber-security infrastructure to safeguard digital transactions, and a stable economic environment supported by the government's macroeconomic policies. Moreover, the enforcement of contractual obligations, safeguarding of property rights, and maintaining a stable financial system collectively contribute to the trust and stability necessary for the operation of digital businesses.

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[124] *Déclaration des droits de l'Homme et du citoyen*, 1789

[125] G. Bizioli, '*Fairness of Digital Economy Taxation*', in *Tax and the Digital Eonomy: Challenges and Proposals for Reform*, Series on International Taxation 69, Kluwer Law International B. V, 2019, pp. 50-51.

[126] See, inter alia, E. R. A. Seligman, *Progressive Taxation in Theory and Practice*, American Economic Association Quarterly, 3rd series, Vol. 9, no. 4 (1908): 1–334, pp. 150 et seq.

[127] Bizioli, pp. 52-54; Xu, p. 127

[128] Ibid., pp. 55-56

Furthermore, the digital economy thrives within a legal framework shaped by the government, which establishes the necessary regulations and norms for fair competition, consumer protection, and data privacy. The provision of a skilled workforce through public education and the creation of a conducive research environment also play crucial roles in sustaining the digital economy. These factors emphasize the nuanced relationship between digital businesses and the state, highlighting the various layers of support and infrastructure necessary for their functioning, even in the absence of a physical presence.

Therefore, while the tangible benefits might not be as apparent as in the case of traditional businesses,[129] the comprehensive support provided by the state to foster a conducive environment for digital business operations emphasizes the legitimacy of taxing these entities based on their income generated within a jurisdiction. Such taxation serves to uphold the principle of tax fairness by acknowledging the indirect yet significant contributions of the state to the success and sustainability of the digital economy.[130]

It should be noted, however, that the completely opposite opinion is also supported by part of the legal theory. According to relevant literature, "*non-resident businesses do not draw any benefits from the legal environment in market jurisdictions, since apart from the difficulties of exercising and enforcing their rights (costly access to judicial system, burdensome bureaucracy to enforce foreign court decisions, expensive discovery pretrial procedures), the legal and regulatory framework, including enforcement of consumer protection laws, impose duties and obligations on companies rather than providing them with benefits; […]. In addition, intellectual property protection is not granted on a general basis to any company; it is only granted to those that have previously filed for such protection, upon payment of substantial filing fees in each jurisdiction where they seek legal protection*".[131] Nevertheless, even those supporting this point of view make an exception for very tax-disruptive digital business models conducting business in regulated sectors such as banking, insurance and gambling, considering that they do benefit from regulatory protection in the jurisdictions where they conduct such activities.[132]

Having said that, taking into consideration the distinct nature of digital business models and their reliance on user-generated content and data described in chapter I, it becomes evident that the primary resource these digital companies derive from the countries where they operate is the active contribution and engagement of their citizens. This active participation, often in the form of data sharing and content generation, serves as a crucial asset for the digital enterprises, enabling them to refine their services and tailor their offerings to meet consumer demands more effectively.

Consequently, this heightened reliance on user-generated content and data has spurred a trend within political and technical discourse, which emphasizes the connection between income taxation and the *demand* component of the *market* jurisdiction, as opposed to the traditional emphasis on the *supply* component of the *residence* jurisdiction.[133] By emphasizing the demand component, this approach recognizes the significance of consumer activity and contributions in

[129] This is referred to as the "non-observability of benefits"; see also V. Koukoulioti, '*User Contribution to Value Creation: The Benefit Principle in the Spotlight'*, in Ed. P. Pistone, D. Weber, *Taxing the Digital Economy: The EU Proposals and Other Insights* (IBFD, 2019), 49–70.
[130] Bizioli, pp. 63 and 65
[131] Lucas-Mas and Junquera-Varela, pp.36-37
[132] Ibid., p. 37
[133] P. Hongler and P. Pistone, '*Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy*', SSRN Scholarly Paper, 20 January 2015, at 15 et seq.

the market jurisdiction, thereby suggesting that the income generated should be associated with the market demand that it serves. A new theory has arised, called "*the value creation theory*", according to which profits should be levied at the place of economic activity occurrence and value creation.[134]

However, whether states are entitled to tax the value contributed by users to digital businesses is also a subject of heated debate.

On the one hand, there is the opinions that the state has contributed through public education and other infrastructure and made possible the interaction of its citizens with the digital businesses that use their data basically as a production means.[135] Towards the same direction, it is supported that the concept of "service-dominant" (S-D) logic is better in elucidating the creation of value and justifying a state's authority to impose taxes on profits generated within its boundaries, in comparison to its antithesis, the 'goods-dominant' (G-D) logic, which centers on the notion of value as exchange value.

In the G-D concept, value is produced by the company and disseminated through the exchange of goods and money in the market. Here, the roles of 'producers' and 'consumers' remain separate, and value creation is perceived as a sequence of activities executed by the company. In contrast, the S-D logic interprets value as a product of the experience, where the roles of producers and consumers are not distinct. Consequently, value is co-created in a collaborative manner during interactions between providers and beneficiaries through the amalgamation of resources. When value is viewed as a result of the customer's utility, the process of value creation accentuates the customer's experiences, perspectives, and their capacity to extract value from products and resources.[136]

In the example of a car sale, materials such as metal, plastic, and rubber are used by the manufacturing company to produce the final product. According to the G-D logic, the company's production process generates value through the creation and delivery of the car as a good, which is then exchanged in the market for money. Conversely, in the S-D logic, the car serves as just one input in the value creation process, which is shaped as customers utilize the car and integrate it with other resources, such as the ability to drive. The car only becomes valuable when customers fulfill their own needs through its usage. This idea forms the foundation of the co-creation of value, emphasizing the mutually beneficial relationship between customers and producers. Additionally, this theory can be extended to all other stakeholders interacting with the company, illustrating the pervasive nature of value co-creation in various business relationships.[137]

On the other hand, according to the opposite opinion, the benefit principle relates to benefits derived by entities from governments, not from private entities and individuals. In addition, digital businesses compensate users for their data and other contributions, e.g. in the form of free access

[134] Xu, p. 137
[135] Koukoulioti, pp. 66-67
[136] M. Calabrese, '*Taxation of the Digital Economy: A New Dawn for Multilateralism and Mutual Recognition*', in Ed. Pasquale Pistone, Dennis Weber, *Taxing the Digital Economy: The EU Proposals and Other Insights*, IBFD, 2019, 71–90, p. 79
[137] S. L. Vargo, P. P. Maglio, and M. A. Akaka, *On Value and Value Co-Creation: A Service Systems and Service Logic Perspective*, European Management Journal, June 2008, 26, no. 3, 145–52, pp. 146-147

to platforms, thus no unpaid benefit is obtained.[138] Relevant to this discussion is the opinion of Eric C.C.M. Kemmeren, Professor of international tax law and international taxation at the Fiscal Institute Tilburg of Tilburg University, according to whom "*such enterprises are doing business with these countries, but not in these countries. As producers of goods and services, they do not directly benefit from the public expenses of these countries; the consumer or the user does. The consumer or user uses the infrastructure of these countries to consume respectively use the digital goods and services. If these countries believe, nevertheless, that they have a legitimate claim to tax profits of producers of digital goods and services, because of the fact that a producer cannot earn any income without a sales market, the reverse is also true. A buyer cannot consume or uses goods or services without them being produced on a production market. Consequently, the countries providing a production market could also legitimately claim a part of the VAT or sales and use taxes. This would not only be true in respect of digital goods and services, but also in respect of physical goods and services. As a result, international tax systems would be made needlessly complicated. I believe that is also not necessary, because the current distribution of taxing rights has already been based on the distinction between the production of added value (income and profit taxes) and the consumption or use of added value (VAT and sales and use tax)*".[139]

Lastly, this shift in focus from supply to demand component and from residence to market jurisdiction has led to a blurring of the lines between income taxation and consumption taxation, prompting the need for a more comprehensive and adaptive taxation framework that accommodates the evolving dynamics of the digital economy.[140] This evolving landscape necessitates a revaluation of tax policies to ensure their alignment with the changing patterns of economic activity within the digital sphere, as further detailed in the next section of this chapter.

A. 3. Double Taxation Relief

A basic principle and objective of international tax law is the avoidance of double or multiple taxation, because it leads to unequal treatment of the entities subject to it and constitutes a major obstacle to international trade. There are two types of double taxation: juridical and economic. Double *juridical* taxation occurs when the same person in the same tax period is taxed on the same subject matter in two or more states, while double *economic* taxation occurs when two different persons are taxed in more than one State for the same taxable amount and for the same period of time.[141]

As already suggested in the previous subsection (A2), due to the dependency of digital businesses on consumer participation, more and more emphasis is being given on the relation between income taxation and the demand component of the market jurisdiction, as opposed to the traditional emphasis on the supply component of the residence jurisdiction. In fact, as further detailed in the next unit (B) of this chapter, market jurisdictions claim taxing rights on the income of digital businesses that generate value based on the data and the participation of their citizens. However,

[138]Lucas-Mas and Junquera-Varela, pp. 36 and 41; W. Schoen, *One Answer to Why and How to Tax the Digitalized Economy*, SSRN Scholarly Paper, 25 June 2019; J. Vella and M. P. Devereux, *Taxing the Digitalised Economy: Targeted or System-Wide Reform?*, British Tax Review, Working Paper 2019, no. 10, p. 393.
[139] Kemmeren, p.73.
[140] G. Kofler and J. Sinnig, '*Equalization Taxes/ the EU's Digital Services Tax*', in *Tax and the Digital Economy: Challenges and Proposals for Reform*, Series on International Taxation, Kluwer Law International B. V., 2019, p. 105;
[141] Fortsakis and Tsouroufflis, p.313

when jurisdictions attempt to impose taxes on digital enterprises operating without a physical presence in their respective territories, there is the danger of inadvertently giving rise to the phenomenon of double taxation.

As regards double juridical taxation, enacting unilateral policies to tax digital enterprises that lack a physical presence in a specific market jurisdiction leads to juridical double taxation for these businesses operating beyond their residence countries, particularly when their residence countries practice a global taxation system. Conversely, if their countries of residence adopt a territorial taxation system that solely taxes income generated domestically, the likelihood of encountering juridical double taxation diminishes, as revenue generated in foreign markets is solely subject to taxation within those markets based on the unilateral tax policies in place.[142]

In relation to double economic taxation, in cases where certain functions of the digital value chain, such as storage, distribution, and customer care, are outsourced to local providers who are tax residents within the market jurisdiction, the market country effectively levies taxes on the same economic transaction through both direct and indirect means, thereby leading to economic double taxation.[143]

The challenge of amending bilateral tax treaties extensively to accommodate adjusted measures within the digital economy presents a significant hurdle. For example, the risk of encountering double taxation escalates, when a Virtual Permanent Establishment is introduced in national legislation (a proposal discussed in the following chapter) but not acknowledged by the treaty's other party. In this case, conflict may arise between the traditional PE and the virtual one, exacerbating the issue. To prevent such impediments to economic progress, multilateral cooperation becomes imperative. Effective implementation of the multilateral instrument, or "MLI," developed by the OECD and adopted in various member states, stands as a viable solution. Further insights into the MLI will be provided in the next chapter.

A. 4. Prevention of Tax Evasion and Avoidance

As important as avoiding international double taxation is, it is equally important to avoid double non-taxation. However, the special characteristics of the digital economy (mobility, reliance on data and intangibles, etc.) create many opportunities for tax base erosion and profit shifting (BEPS). The digital economy has created the phenomenon of “stateless income”, that is, income earned by multinationals that is not taxed in any state or that is taxed in a state that is neither the state of residence of the ultimate parent company of the group nor the source state of the income.[144]

A. 4. i. BEPS: Definition and strategies

BEPS refers to a set of tax planning strategies and practices that are designed to exploit gaps and mismatches in tax rules across different jurisdictions. This erosion can occur through several means, including the transfer of profits to foreign jurisdictions, especially those with preferential tax rates. The OECD identified tax base erosion as a significant threat to the tax revenues, sovereignty, and fairness of countries' tax systems.

[142] Lucas-Mas and Junquera-Varela, pp. 47-48
[143] Ibid., p. 49
[144] Fortsakis and Tsouroufli, p. 340

The practice of BEPS involves the utilization of tax planning strategies that exploit gaps and discrepancies in tax regulations. The aim of these strategies is to either conceal income from taxation or transfer it to countries with minimal or no tax rates, where little to no corporate tax is paid. [145] This practice is estimated to have resulted in a global loss of taxable revenue between 4% and 10% of global corporate tax revenue (equivalent to $100-240 billion annually) during the 2013-2015 period.[146]

Various methodologies are employed for international tax avoidance, including the establishment of offshore companies in tax havens, the improper use of holding companies or other special purpose vehicles lacking substantial operations, the artificial transfer of losses within multinational groups, and the indirect transfer of profits from high-tax-rate countries to low-tax-rate countries.[147] Additionally, the misuse of tax rulings, ambiguous provisions on transfer pricing, preferential regimes related to intangibles, and the lack of effective anti-abuse rules contribute to the erosion of the tax base. These practices can potentially impede the implementation of effective exchange of information systems and obscure the true ownership of assets, posing further challenges to tax enforcement and transparency.[148]

First, establishing offshore companies in *tax havens* is a popular method of international tax avoidance. Tax havens are typically characterized by their low or non-existent taxation rates, lack of information exchange frameworks, and limited transparency. Offshore companies offer advantages in terms of swift setup, minimal costs, and confidentiality.[149] Beneficial owners can appoint representatives to conduct transactions in their name, ensuring anonymity. Key benefits include minimal capital requirements, complete privacy for shareholders and unrestricted asset acquisition. Various offshore company types include holding companies, financial service providers, administrative firms, trading entities, and more.[150]

Moreover, the implementation of a group tax system allows related companies to balance their losses against the profits of other group companies (horizontal offsetting). However, this system often operates solely at the national level, excluding foreign companies. Recently, some states have expanded the group tax system to include the permanent establishments of foreign companies in

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[145] K. Savvaidou, *Το Σχέδιο Δράσης του ΟΟΣΑ (BEPS project) για την αντιμετώπιση της φοροαποφυγής και η εφαρμογή του στην Ευρωπαϊκή Ένωση [The OECD Action Plan (BEPS project) to tackle tax avoidance and its implementation in the European Union]*, Nomiki Bibliothiki, 2022,p. 14

[146] V. Athanasaki, *Οι Γενικές Ρήτρες κατά της Φοροαποφυγής στο Διεθνές και Ευρωπαϊκό Φορολογικό Δίκαιο [The General Clauses against Tax Avoidance in International and European Tax Law]*, Nomiki Bibliothiki, 2019.

[147] For an characteristic example, see Cases T-778/16, *Ireland v Commission*, and T-892/16, *Apple Sales International and Apple Operations Europe v Commission*, useful for comprehending how Apple Inc., a U.S. corporation, has used a variety of offshore structures, arrangements, and transactions to shift billions of dollars in profits away from the United States and into Ireland, where Apple has negotiated a special corporate tax rate of less than 2%; for the Commission's relevant press release see https://curia.europa.eu/jcms/upload/docs/application/pdf/2020-07/cp200090en.pdf (accessed 31/10/2023); for a case study on the Apple Inc. case see Senator C. Levin (Chairman) and Senator J. McCain (Ranking Minority Member), *E X H I B I T S, Hearing On Offshore Profit Shifting and the U.S. Tax Code Part 2 (Apple Inc.)*, May 21, 2013, United States Senate, Committee on Homeland Security and Governmental Affairs, Permanent Subcommittee on Investigations, available at: https://www.hsgac.senate.gov/wp-content/uploads/imo/media/doc/EXHIBITS%201-19%20(May%2021%202013)3.pdf (accessed 31/10/2023)

[148] Savvaidou, pp.14-16

[149] D. Dimitriou, *Offshore (υπεράκτιες) εταιρείες & Φορολογία [Offshore companies and Taxation]*, 20 January 2022, taxcoach, https://taxcoach.gr/blog/offshore-%cf%85%cf%80%ce%b5%cf%81%ce%ac%ce%ba%cf%84%ce%b9%ce%b5%cf%82-%ce%b5%cf%84%ce%b1%ce%b9%cf%81%ce%b5%ce%af%ce%b5%cf%82-%cf%86%ce%bf%cf%81%ce%bf%ce%bb%ce%bf%ce%b3%ce%af%ce%b1-%cf%84%ce%bf/ (accessed 31/10/2023)

[150] Savvaidou, pp. 16-21

their country, partly to enhance competitiveness and comply with EU law. Differences in the treatment of potential losses across EU countries significantly impact investment decisions, favoring companies in nations with more lenient regulations. Despite recognizing the significance of businesses offsetting losses across member states, achieving unanimity on this issue within the EU has been challenging, leading to limited harmonization. Consequently, the possibility of cross-border loss carry-forwards within business groups can be manipulated to artificially carry forward losses and minimize the overall tax burden of the group.[151]

Also, violation of the *arm's length principle* in the documentation of intra-group transactions within multinational groups is commonly observed. These groups often employ strategies to manipulate pricing between related companies, aiming to shift profits to low-tax jurisdictions. Such practices involve overpricing or underpricing transactions and deviating from market-based terms, leading to reduced tax burdens for the group. The arm's length principle, established in Article 9 of the OECD Model Convention, serves as an international standard for pricing policies among member states, guiding the documentation of intra-group transaction charges. This principle requires that transactions between related parties mirror those conducted between independent companies under similar conditions, ensuring equitable distribution of profits and taxable income within the multinational group and across the involved states.[152]

Another strategy utilized by certain businesses to minimize their tax liabilities is the practice of *thin capitalization*. By borrowing substantial sums from affiliated companies in other countries, these businesses can lower their taxable profits by deducting the interest paid on the loans. Simultaneously, the lending affiliate, usually taxed in a jurisdiction with a low rate, does not significantly increase its tax liability from the interest income received. As a result, the borrowing company's capital primarily comprises borrowed funds rather than equity. This approach enables groups to optimize their tax planning, aiming to achieve the lowest possible tax burden. Parent companies can support subsidiaries through loans rather than equity, allowing subsidiaries to redirect profits to the parent by repaying the loans' interest instead of distributing dividends, thus reducing their taxable income.[153]

Moreover, there is a challenge in distinguishing between the abusive use of Double Taxation Agreements ("treaty-shopping") and legitimate tax competition. While some consider "treaty-shopping" a form of tax avoidance and contrary to the objectives of double taxation treaties, others view "tax competition" as a means of identifying optimal legal structures and tax rates. Critics argue that this practice violates the reciprocity provision of tax treaties and disrupts the balance of concessions made by the contracting parties. When a resident of a third country benefits from a bilateral tax treaty, it extends concessions to a state that did not participate in the treaty, potentially without reciprocating certain actions and corresponding advantages, such as the exchange of information. Moreover, the practice of "treaty-shopping" can discourage the conclusion of Double Taxation Avoidance Treaties, as it may be perceived as unbalanced in terms of mutual concessions. The absence of such tax treaties and the resulting lack of cooperation in the tax sector can create more opportunities for international tax evasion.[154]

[151] Ibid., pp. 21-22
[152] Ibid., pp. 22-23
[153] Ibid., p. 24
[154] Ibid., pp. 24-25

A. 4. ii. BEPS in the digital economy

The digital economy introduces further opportunities for BEPS beyond those commonly observed in traditional economies, since the nature of the digital business models enables the utilization of sophisticated strategies to minimize the allocation of income to market jurisdictions.

For example, in situations where a company operating in the digital economy receives specific payments, such as interest or royalties, from payers in a foreign country, it might be liable for withholding tax in that jurisdiction, even if it is not a resident there. However, if permitted by an agreement between the two countries involved, the digital company might qualify for reduced withholding or even exemption from withholding on the profits transferred as royalties or interest to a jurisdiction with lower tax rates. Nonetheless, the use of structures that employ treaty shopping through the insertion of shell companies in countries with favorable treaty networks lacking sufficient safeguards against treaty abuse gives rise to concerns related to BEPS.[155]

Moreover, the reliance on intangibles as a significant source of value in the digital economy amplifies the potential for tax base erosion, as companies can transfer rights in intangibles to jurisdictions with preferential tax regimes, leading to reduced tax burdens in the intermediate and ultimate parent company countries.[156]

Furthemore, BEPS concerns can emerge in relation to VAT (Value Added Tax) when it comes to digital services provided to businesses exempt from VAT and to companies operating in multiple jurisdictions ("multi-location enterprises" or "MLE") engaged in exempt activities.

For businesses exempt from VAT, the situation arises where they cannot claim back the VAT paid on their inputs, leading to potential issues when dealing with foreign suppliers. Some jurisdictions do not require exempt businesses to self-assess VAT for services and intangibles obtained from abroad, resulting in no VAT being levied on the transaction. This circumstance can be concerning, particularly if the supplier's jurisdiction does not have VAT or has a lower VAT rate than the customer's jurisdiction, leading to potential competitive pressures for domestic suppliers who must collect and remit VAT on their services, creating an uneven playing field compared to non-resident suppliers.[157]

BEPS concerns can also arise when a MLE acquires digital supplies. In many VAT jurisdictions, VAT is not currently applied to transactions between establishments of the same legal entity within an MLE. This means that establishments within an MLE can obtain services from each other without incurring any VAT.

However, if the establishments using the services are VAT-exempt businesses, they cannot normally recover the VAT paid on their inputs. This can lead to significant VAT savings for these businesses when they acquire services through other establishments within the same MLE, especially if the acquiring establishment is in a country without VAT. This arrangement allows businesses to avoid incurring any input VAT, giving them a competitive advantage over businesses that must pay VAT when acquiring similar services externally.

For example, consider a multinational bank that requires data processing services. If it obtains these services directly from a local supplier, it would have to pay VAT on the services without the

[155] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, para. 190
[156] Ibid., para. 193
[157] Ibid., paras. 198-200

ability to recover it due to its VAT-exempt banking activities. However, if the bank obtains the services through another establishment of the same bank in a different country and reimburses that establishment for the cost, it can avoid paying VAT. This strategy can help the bank save a significant amount of money on VAT, providing it with an advantage over competitors that must pay VAT for similar services.[158]

B. Updating traditional concepts of international taxation

The classical tax system based on the benefit principle adopts the traditional supply-based approach as its theoretical foundation and puts emphasis the tax jurisdiction of the residence country. When the non-resident entity fulfils the criteria for a "permanent establishment" (PE) in the source country, that country can impose tax upon its income, profit and gains. In general, according to traditional tax rules, passive income is levied in the residence country and positive income is levied in the source country.[159]

As mentioned above, in the light of the digital transformation of the economy and the emergence of new business models that rely heavily on user participation, attention has shifted to the demand component and, therefore, to the market jurisdiction. A new perspective has emerged in all public forums that profits should be collected at the place of occurrence of economic activity and value creation.[160] Again, it should be noted that the question of whether the mere existence of the demand side justifies the assignment of tax rights to the market state is difficult to answer on a scientific basis, as the classical benefit principle does not seem to provide sufficient justification.[161] Nevertheless, this new perspective seems to serve the purposes of efficiency well, given that the user community - which in the case of digital businesses is largely equivalent to the consumer community - is relatively stable and immobile. Simply put, a company cannot artificially move its users to a different jurisdiction to take advantage of a more favourable tax regime.[162]

Given the need to address the problem of tax evasion by digital companies, the concept of value creation has been used as a political instrument by market countries, and also by international organisations, notably the OECD and the EU, to exclude tax havens from claiming jurisdiction over the profits of these companies.[163] In particular, tax measures relating to the digital economy generally pursue two objectives: the broader objective of redistributing tax rights between different jurisdictions and the narrower objective of tackling tax avoidance and harmful tax competition.[164]

The proposed solutions involve updating and broading the traditional concepts of PE and nexus through new concepts, as that of "Significant Economic Presence", and imposing withholding taxes, "equalisation levies" and "single digital taxes". Some of the solutions proposed aim at partly allocating taxing rights to market jurisdictions, while others have the potential for full allocation, unless they are limited by certain qualitative and quantitative thresholds.[165]

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[158] Ibid., paras. 201-203
[159] Xu, pp. 127-128
[160] Ibid., p. 134
[161] Koukoulioti, pp. 56 and 66-67; Theocharopoulou, *Η Άμεση Φορολογία Της Ψηφιακής Οικονομίας Και η Δημιουργία Αξίας [Direct Taxation of the Digital Economy and Value Creation],* p. 298
[162] Schoen, p. 19
[163] Ibid., p. 6
[164] Ibid., p. 1
[165] Ibid., pp. 12-15

The exact content of the measures proposed will be analysed in the following chapter.

IV. Global efforts and initiatives to tax the digital economy

The tax challenges of the digital economy have been identified as one of the areas of interest for both the OECD and the EU, which have attempted to reshape tax rules to reflect the new reality of the globalised and digital economy.

Firstly, the issue of the tax challenges of the digital economy was addressed in the context of the OECD's Action Plan on Base Erosion and Profit Shifting ("BEPS Project") which led to the publication in October 2015 of the Final Reports on the fifteen proposed Actions[166], including Action 1[167] which addresses the challenges of the digital economy in general, but also other individual Actions addressing specific issues affected by developments in the digital economy, such as in particular the rules on controlled foreign companies (CFC), PE and rules on documentation of intra-group transactions.

Concurrently, the EU has undertaken several initiatives aimed at addressing the multifaceted challenges posed by the digital economy, particularly with regard to achieving equitable taxation within its jurisdiction. Central to this endeavour is the imperative of establishing a substantive nexus between the geographical locus of digital profit generation and the corresponding tax jurisdiction. This strategic pursuit seeks to harmonize the fiscal consequences with the underlying value creation dynamics, reflecting the EU's commitment to fostering fair and equitable taxation practices within its member states.[168]

As the global community grapples with the intricacies of digital taxation, this chapter delves into the diverse approaches and strategies employed by the aforementioned key players, namely the OECD (A) and the EU (B). Through an insightful examination of their respective methodologies, this chapter seeks to shed light on the collective endeavors aimed at establishing a standardized framework for the taxation of the digital economy on the global stage.

A. The approach of the Organization for Economic Cooperation and Development

A. 1. The 2015 Base Erosion and Profit Shifting (BEPS) project

A. 1. i. Overview

As detailed in chapter III, the tax base of states can be eroded in various ways. The transfer of profits to foreign jurisdictions, and in particular non-cooperative and low tax jurisdictions, is an important source of tax base erosion. According to the OECD, tax base erosion poses a serious risk to countries' tax revenues, tax sovereignty and tax fairness.[169]

Inconsistencies in the tax laws of states can lead to double taxation, which is clearly a problem and which is mainly addressed through the Conventions on the Avoidance of Double Taxation.

[166] https://www.oecd.org/tax/beps/beps-actions/ (accessed 31/10/2023)
[167] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*
[168] K. Savvaidou and V. Athanasaki, *Αντιμετώπιση της Διεθνούς Φοροαποφυγής και Φορολογική Αβεβαιότητα [Tackling International Tax Avoidance and Tax Uncertainty]*, Nomiki Bibliothiki, 2023, p. 201-202
[169] OECD, *Addressing Base Erosion and Profit Shifting*, OECD Publishing, Paris, 2013, p. 5

However, in recent years it has emerged that loopholes and mismatches also lead to zero taxation, which is an even bigger problem for national governments, as they result in a loss of revenue. It is also very important that when some companies do not pay tax where the profit is generated, that is, in the countries where they actually operate, this has serious consequences both for competition between companies and for tax justice in general. All these issues are therefore addressed by the BEPS Project.[170]

In particular, to address the BEPS phenomenon, the OECD has developed a project ("BEPS project"), which includes fifteen actions.[171] Through these actions, the OECD pursues three main objectives: a) to address distortions in the application of bilateral tax treaty rules and international standards with an emphasis on achieving "*substance*" in transactions; b) to make the international corporate tax system coherent and address gaps ("*coherence*"); and c) to enhance *transparency*, i.e. the access of tax authorities to sufficient data to enable them to identify points of interest relating either to the pricing of intra-group transactions or to other issues related to the erosion of the tax base and the transfer of profits abroad.

In addition to the actions aimed at the three main objectives mentioned above, the OECD Action Plan includes two independent Actions that do not fall into any of the aforementioned objectives, namely Action 1 on the digital economy and its challenges and the general need for modernisation and the Action 15 on the adoption of a multilateral instrument for the automatic incorporation of the proposed actions into the bilateral tax treaties of the contracting parties.[172]

In the following subsections, a detailed reference will be made to Action 1, which relates directly to the digital economy, and a brief reference to Actions 3, 7 and 8-10, which relate to this issue indirectly.

A. 1. ii. Action 1: Addressing the Tax Challenges of the Digital Economy

According to the 2015 OECD BEPS Action 1 Report (hereinafter the "Report") on addressing the tax challenges of the digital economy, the implications of the rapid growth of the digital economy should be addressed at both direct and indirect tax levels, through a holistic approach, with a particular focus on issues of PE, classification and taxation of income arising from new business models and efficient tax collection in cases of cross-border transactions, sale of digital goods or provision of digital services.[173]

In addition to BEPS issues, the Report identifies a number of broader tax challenges created by digitalisation, notably in relation to "nexus, data and characterisation".[174] The Report recognized that the challenges extended beyond BEPS and acknowledged that they primarily related to the issue of how to allocate taxing rights on income generated from cross-border activities among countries. While it identified various options to address these concerns, including proposals involving a new concept called "significant economic presence," the utilization of a specific "withholding tax," and the introduction of a "digital equalization levy," the OECD did not explicitly endorse any of these measures for implementation. Instead, states agreed to continue

[170] Savvaidou, p. 66
[171] Ibid., p. 64
[172] Ibid., p. 126
[173] Ibid., p. 127
[174] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, Chapter 7

monitoring developments related to digitalization and their tax implications, with the aim of producing a final report in 2020, along with an interim report in 2018.[175]

However, it should be noted that, in the end, solutions such as the adoption of the concept of "significant economic presence" for tax purposes, the introduction of a withholding tax on digital transactions and the imposition of an "equalization levy" did not prevail.[176]

A. 1. ii. a. Direct taxation of the digital economy

A. 1. ii. a. aa) The concept of Significant Economic Presence (SEP) as a new "nexus"

With regard to direct taxation, a first issue identified in the Report concerns the current definition of a company's PE and the taxation of profits earned when it sells its products and/or provides its services in another country. The Report proposes on the one hand to broaden the concept of PE by amending the list of exceptions to the permanent establishment and on the other hand to create a digital/virtual PE.[177]

Determining the threshold for the existence of the virtual PE

Despite its terminology, this SEP policy option is really about modifying the concept of PE for the digital age, suggesting that there can be a virtual PE (VPE), meaning a PE that is fully dissociated from the current physical and/or personal presence requirements that have traditionally characterized PEs.[178] The SEP concept is aimed at creating a new "nexus" between the digital business and the country of taxation that will demonstrate that the digital business has significant economic activity in that country and will create a taxable presence in a country without PE, but based on factors that demonstrate a consistent and continuous interaction with that country's economy, via technology and automated tools.[179] With regard to the aforementioned factors, a revenue-based factor is proposed, which includes revenue generated on a consistent basis in a country, digital factors, and subjective factors.[180]

In particular, the existence of a SEP depends on:

i) a revenue factor identified with a (preferably) high threshold of gross revenues generated from "remote" transactions, calculated on a related-group basis; combined with either

ii) digital factors either in the form of local domain names, local digital platforms or local payment options; or

iii) user-based factors, such as monthly active users, online contract conclusion or data collected.

First, as regards the revenue factor, the Report states that "*revenue that is generated on a sustained basis from a country could be considered to be one of the clearest potential indicators of the existence of a significant economic presence. […] To the extent that the country of the users and*

[175] E. Robert, *The 2018 OECD Interim Report*, in Haslehner et al. (eds.) *Tax and the Digital Eonomy: Challenges and Proposals for Reform*, Series on International Taxation 69, Kluwer Law International B. V, 2019, p.3
[176] Savvaidou and Athanasaki, p. 208
[177] Ibid., p. 209
[178] A. B. Moreno and Y. Brauner, *Tax Policy for the Digitalized Economy under Benjamin Franklin's Rule for Decision Making*, in Haslehner et al. (eds.) *Tax and the Digital Eonomy: Challenges and Proposals for Reform*, Series on International Taxation 69, Kluwer Law International B. V, 2019, p. 72
[179] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, par. 277
[180] Ibid., paras. 278-283

country of the paying customers are aligned, the value of an enterprise's users and user data would generally be reflected in the enterprise's revenue in a country. In other words, because user data serves to enhance the value of the services an enterprise offers, a strong user network (and the attendant user data) is likely to result in enterprises either selling more or enterprises charging more for its core products/services, or both. Under such circumstances, the revenues earned from customers in a country are a potential factor for establishing nexus in the form of a significant economic presence in the country concerned".

The Report explores various parameters to consider when developing the revenue factor. These parameters include:

- Covered Transactions: one approach is to incorporate revenues generated from transactions with customers within the country through a platform. However this approach might discourage digital business practices. To ensure fairness it may be preferable to include all revenue generated from transactions with in country customers even if they are not strictly digital.
- Threshold Level: the key component of the revenue factor would be revenues from transactions with in country customers expressed in local currency. Setting the threshold at a high level aims to reduce administrative and compliance burdens while still collecting significant tax revenue. Taking into account the country's market size is important.
- Administration of the Threshold: accurately applying the threshold relies on the country's capability to identify and measure sales activities. One possible approach could involve implementing a registration system, for enterprises that meet criteria indicating significant economic presence. However identifying sellers and ensuring compliance in online transactions presents challenges.[181]

Second, concerning the digital factor, based on the Report, in the digital economy, establishing and maintaining a meaningful presence in a specific country involves factors analogous to those in "brick and mortar" businesses, such as location and customer service. Several digital factors can be considered in determining a significant economic presence, including:

- Local Domain Name: When non-resident enterprises target customers in a particular country, they often acquire a local domain name to serve as their digital "address". This domain name reflects the local context, making it easier for local users to find the site. While not strictly necessary, not having a local domain name can expose enterprises to the risk of domain squatting and trademark infringement. However, the relevance of country-specific domain names may decrease as generic domain names become more common.
- Local Digital Platform: Non-resident enterprises often create "local" websites or digital platforms tailored to the preferences and cultural norms of local users. These platforms may include language options, local marketing strategies, and terms of service that align with the local commercial and legal environment. Establishing a local platform is crucial for attracting a significant number of local users.
- Local Payment Options: Enterprises engaging in a sustained interaction with a country's economy typically ensure a seamless purchasing experience for local customers. This involves displaying prices in local currency, calculating taxes, duties, and fees, and offering local payment methods. Integrating local payment options is a complex undertaking, often

[181] Ibid., para. 278

requiring substantial resources. It's particularly important in countries with strict banking regulations, currency controls, or limited international credit card usage.[182]

Third, as regards the subjective, user-based, factors, the Report states that in the digital economy, assessing a purposeful and sustained interaction with another country's economy can involve several indicators related to users and their data. These indicators include:

- Monthly Active Users: One way to gauge the level of engagement with a country's economy is by considering the number of "monthly active users" (MAU) habitually residing in that country within a taxable year. MAU refers to registered users who have logged in and visited a company's digital platform in the 30-day period preceding the measurement date. However, defining a "user" and determining the required level of engagement for a user to be considered "active" would require more detailed metrics, along with ensuring the reliability and accuracy of this information due to potential issues like fraudulent accounts and bots.
- Online Contract Conclusion: Another indicator of an enterprise's economic engagement in a country is the regular conclusion of contracts. In traditional terms, this is assessed through the "dependent agent" PE test outlined in Article 5 of the OECD Model. However, in the digital economy, contracts can be frequently concluded via digital platforms without local personnel or dependent agents. The number of contracts concluded with customers or users habitually residing in the country during a taxable year can be considered an important factor.
- Data Collected: The volume of digital content collected through a digital platform from users and customers habitually residing in a country within a taxable year is another factor reflecting an enterprise's participation in that country's economic life. This consideration focuses on the origin of the collected data, regardless of where it is subsequently stored and processed. It encompasses various data types beyond personal data, including user-generated content, product reviews, and search histories. Proportionality tests may be applied, such as assessing whether the volume of collected digital content exceeds a certain percentage of the enterprise's overall stored digital content.

It's worth noting that information on data collected is becoming increasingly available, reliable, and up-to-date, especially when focusing on data effectively stored by the non-resident enterprise. However, maintaining comprehensive records of data volume on a country-by-country basis may not be a common practice among businesses. Additionally, the volume of collected data from users in a country may not necessarily align with the profits generated by the non-resident enterprise, as the value of raw data can be uncertain and volatile.[183]

Moreover, the Report discusses the potential combination of the revenue factor with other factors to determine the presence of SEP in a country, emphasizing the need for a link between revenue generation and digital/user-based factors tailored to each market's unique characteristics. According to the Report, while total revenue exceeding a threshold serves as an initial indicator, it may not fully capture sustained economic participation. To address this, factors related to digital engagement and user interactions can be considered. For instance, a clear link between revenue and digital/user-based factors can exist when transactions occur through a localized digital platform with personalized accounts and local payment options. Conversely, such a link may be

[182] Ibid., para. 279
[183] Ibid., para. 280

challenging to establish when revenue derives from in-person negotiations without an interactive digital presence. This approach allows for a more comprehensive assessment of economic presence tailored to market characteristics.[184]

Profit Attribution to the VPE

As with any PE, determining the threshold for its existence is just the first step in the VPE analysis. After the VPE is found to exist, the next question that arises is how to attribute profits to it. In this regard, the Report acknowledged that the traditional attribution rules, which are based on functions performed, assets used and risk assumed, would not permit a significant profit attribution to a VPE.[185] Adjustments, such as allocating remote business functions and treating customers as performing functions, have been considered but would significantly depart from existing standards.

Also, *fractional apportionment* methods, dividing profits based on predetermined formulas or allocation factors, were contemplated. However, these methods are not aligned with current international standards and could yield different tax outcomes depending on the type of business presence.[186]

Moreover, *deemed profit* systems, based on empirical presumptions, were explored. This approach considers a SEP as equivalent to a physical presence and determines net income based on a ratio of presumed expenses to revenue from in-country transactions. The ratio would be determined based on a number of factors, inter alia, industry classifications of taxpayers, products or services received, and degree of integration of the enterprise.[187] In the Report, the deemed-profit method was presented as a superior alternative but riddled with numerous technical and practical problems. On the one hand, the Report notes that deemed profit methods are relatively easy to administer and can generate revenue. On the other hand, they may not be suitable for large multinational enterprises with complex structures, applying them to digital business models may require adjustments due to differences in cost structures and it would also be difficult to determine the appropriate ratio, which could vary by industry and other relevant factors. The Report also notes that it's important to consider potential departures from international standards and the possibility of a tax liability even in loss-making situations, unless a rebuttable presumption is introduced.[188]

As expected, the Report has spited a heated academic discussion on the issue of profit attribution to VPEs, and academic work has also advocated for other methods. Some of them are explained briefly below:

The *Modified Profit Split Method with an Upfront Income Allocation of a Partial Profit to the Market Jurisdiction* advocates for departure from the current PE attribution system by proposing a "modified profit split" based on an upfront allocation of 1/3 of the profit of an enterprise acting in the digital economy to the market jurisdiction (i.e. the state in which the VPE is "located").[189]

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[184] Ibid., paras. 281-283.
[185] Moreno and Brauner, p.73
[186] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, paras. 287-288
[187] M. Cataldi, *The Attribution of Income to a Digital Permanent Establishment*, in: Kerschner I./Somare M. (eds), *Taxation in a Global Digital Economy*, Linde Verlag, 2017, p. 150
[188] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., paras. 289-291
[189] Hongler and Pistone

The *Sales-Based Transactional Profit Split* method attributes the total transactional profit to the sales jurisdiction where an MNE serves its customers in the first step and, in the second step, to non-sales jurisdictions involved in the transaction. Because the profit split results in overlapping tax bases and in double taxation, the sales jurisdiction, taxing the total transactional profit, in the third step is obliged to grant a credit for taxes paid in non-sales jurisdictions on the same profit. The credit method does not only eliminate double taxation but ensures both international tax neutrality and inter-nation equity. Standardized profit allocation keys may apply to alleviate the inter-jurisdictional tax base division and to reduce administrative and compliance costs.

Taxing transactional profits in the sales jurisdiction calls for an appropriate definition of the PE. Existing PE rules do not capture online transactions. What is proposed is to extend the current legal definition of the PE to cover online transactions as well as physical transactions combined with online transactions. Above a certain threshold, MNEs' online transactions should trigger a registration requirement and constitute a PE in the jurisdiction where customers in B2C transactions have their tax residence. In B2B online transactions, customer location should depend on the place where the customer uses digitalized goods or services. When MNEs combine online and physical transactions, the location of physical goods should primarily constitute a PE.[190]

The above methods suggested by academic literature are still far from being universally accepted, as they come with their own technical problems.[191]

Finally, as it is clearly evident from the above, the issue of profit attribution is the main problem of the VPE solution. The Report also examines two other solutions, i.e. the Withholding Tax (bb) and the adoption of a Digital Equalisation Levy (cc). Under these two policies, there is no need to attribute profits, therefore they completely sidestep the problem.[192]

A. 1. ii. a. bb) Withholding tax

The Report discusses the concept of a withholding tax (WHT) on digital transactions, particularly focusing on payments made by residents and local PEs of a country for goods and services purchased online from non-resident providers. This WHT can be implemented as either a standalone gross-basis final WHT *or* as a primary collection mechanism to support net-basis taxation on the basis of the new VPE nexus. Both approaches present technical challenges regarding the scope of covered transactions and the collection of tax liabilities. Additionally, imposing a standalone final WHT may raise issues related to trade obligations and EU law.[193]

The scope of covered transactions needs to be clearly defined to ensure taxpayer compliance and minimize complexity. While specifying specific transaction types could provide clarity, it may lead to disputes due to evolving technology. A broader definition, such as applying the tax to online sales transactions or all remote sales with non-residents, offers flexibility and reduces disputes over characterization.[194]

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[190] U. Schreiber and L. M. Fell, *International Profit Allocation, Intangibles and Sales-Based Transactional Profit Split*, World Tax Journal 2017, no. 1 (2017): 99–115, pp. 104-109 and 114-115.
[191] Moreno and Brauner, p. 85
[192] Ibid., p. 87
[193] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., par. 292
[194] Ibid., paras. 293-294

In practice, the liability for WHT is often shifted to local collecting agents, but determining who should withhold is more challenging for B2C transactions involving private consumers. Requiring intermediaries to withhold in B2C contexts presents technical challenges, but a mandatory registration system for non-resident enterprises may facilitate this process. However, it could also create opportunities for tax avoidance.[195]

The Report also highlights the potential negative impact of gross-basis taxation, as it may not accurately reflect net income, especially for businesses with ongoing expenditures. To mitigate this, setting a relatively low fixed rate based on typical profit margins within the industry is suggested. Nevertheless, imposing a gross-basis final WHT on foreign suppliers for remote sales may conflict with trade obligations and EU law, requiring careful consideration of preservation of national treatment.

A more viable approach discussed is using this mechanism as a backup to enforce net-basis taxation based on SEP rather than a standalone option. This approach would involve a registration system for taxpayers agreeing to file tax returns on their net income, coupled with a credit system and potential tax refunds. However, challenges arise concerning taxpayers' incentives to file returns when their net tax liability exceeds the WHT payable.[196]

To sum up, the Report was rather inconclusive when defining the WHT tax policy option. It acknowledged that it could be imposed as a stand-alone, gross-basis final WHT or as a primary-collection mechanism to support the VPE nexus, however it finally saw it as more of a back-up mechanism for net-basis taxation enforcement. As regards the scope of the transactions to be taxed, the Report favoured a general definition, such as one related to transactions for goods or services ordered online or simply all sales operations concluded remotely with non-residents. The report examines the possibility of using the withholding tax in B2C contexts by requiring intermediaries processing payments to withhold taxes but, in the end, it ultimately leaned towards restricting the withholding tax to B2B transactions. Also, it acknowledged that a withholding tax based on gross revenues may not accurately represent taxation on net income. As a resolution to this issue, it suggested fixing the tax rate at a relatively low level. As expected, legal theory has not left the proposal unchallenged. According to some, the proposed WHT is rather generic and undefined.[197]

A. 1. ii. a. cc) Equalisation levy

Moreover, the Report proposes the concept of an "equalisation levy" as an alternative approach to addressing the challenges of taxing the digital economy without the need for new profit attribution rules based on SEP. This levy is designed to ensure equal treatment of foreign and domestic suppliers and has been used in certain countries, for example in the insurance sector, where it is applied as excise taxes on gross premiums paid to offshore suppliers. The levy's structure can vary based on its policy objectives but generally aims to tax a non-resident enterprise's SEP in a country.[198]

The scope of the levy can be broad, encompassing all remote sales transactions with in-country customers, or more targeted, focusing on transactions conducted through digital platforms. It can

[195] Ibid., paras. 295-297
[196] Ibid., paras. 298-301
[197] Bizioli, p. 62
[198] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., par. 302

be imposed on the gross value of goods or services provided to in-country customers, collected by the foreign enterprise or a local intermediary. Alternatively, the levy could be based on data and contributions gathered from in-country customers and users, potentially measured by metrics like MAU or the volume of data collected.[199]

Implementing an equalisation levy that applies solely to non-resident enterprises may raise questions concerning trade agreements and EU law, similar to a gross-basis final WHT. Potential solutions could involve imposing the tax on both domestic and foreign entities, necessitating considerations about mitigating the impact on entities subject to both corporate income tax and the levy.[200]

There is also a concern that the income subject to the corporate income tax and the levy may overlap. To address this, the levy could be structured to apply only when the income would otherwise be untaxed or subject to a very low tax rate. Alternatively, taxpayers subject to both corporate income tax and the levy could be allowed to credit the levy against their domestic corporate income tax, ensuring a fair tax burden for entities with and without a corporate income tax nexus in the source country.[201]

The equalization levy policy alternative is considered to be the least elaborated among those proposed in the Report. Indeed, it seems that its description in the Report is mostly a presentation of the many uncertainties surrounding it, the most evident being its eventual scope. When it comes to its objective scope, the report stated that it would be applied only in cases where it is determined that the non-resident enterprise has a SEP. Still, it also considered the possibility of applying the levy to all transactions concluded remotely with in-country customers. Regarding the means of conducting transactions, the report did not clearly take a position on either side of the issue related to which transactions would be subject to taxation: all transactions concluded remotely or just those effectuated through a digital platform? Finally, and despite the fact that the equalization levy appears to have been designed to cover cross-border transactions alone, the Report also appears to suggest that it could be imposed on both foreign and domestic entities.[202]

A. 1. ii. b. Indirect taxation of the digital economy

Further, the Report addresses the challenges in the indirect taxation of the digital economy. In particular, the Report discusses the challenges associated with the collection of Value Added Tax (VAT) in the context of the digital economy, focusing on cross-border trade in goods, services, and intangibles, including digital downloads. It highlights two main tax challenges, which regard exemptions for imports of low-value goods and remote digital supplies to consumers.

The first challenge relates to the significant growth in e-commerce, particularly online purchases of physical goods from foreign suppliers by consumers. Many VAT jurisdictions exempt low-value imports from VAT due to administrative costs outweighing the VAT revenue. However, businesses can restructure to exploit these exemptions, potentially resulting in decreased VAT revenues, competitive pressures on domestic retailers, and the relocation of domestic businesses to offshore jurisdictions to avoid VAT.

[199] Ibid., paras. 303-305
[200] Ibid., par. 306
[201] Ibid., paras. 307-308
[202] Moreno and Brauner, p. 75

The second challenge arises from the growth in cross-border B2C supplies of remotely delivered services and intangibles. The digital economy allows suppliers to deliver such products to consumers worldwide without a physical presence in the consumer's jurisdiction. This often results in no or insufficient VAT collection, creating competition issues for domestic suppliers. The Report refers to two approaches to allocate taxing rights: one based on the supplier's jurisdiction and the other on the consumer's jurisdiction. It highlights challenges in enforcing VAT collection in the consumer's jurisdiction when suppliers are non-residents, potentially leading to a loss of VAT revenue and unfair competitive pressures on domestic suppliers.[203]

The Report outlines four models for VAT collection on low-value imports: the traditional collection model, purchaser collection model, vendor collection model, and intermediary collection model.

The traditional collection model, involving individual assessments at the border, is considered inefficient without electronic systems. Electronic systems can enhance the efficiency of the traditional model, especially for express carriers, but may not be readily available for postal services. The purchaser collection model, relying on purchasers to self-assess VAT, is complex and likely to have low compliance. The vendor collection model, requiring non-resident vendors to charge, collect, and remit VAT, offers efficiency but requires changes to existing processes. The intermediary collection model, with intermediaries collecting VAT on behalf of vendors, minimizes compliance burdens on vendors. Intermediaries such as express carriers and transparent e-commerce platforms are identified as potential efficient collectors.

The Report proposes the implementation of integrated information exchanges between tax administrations and taxpayers and the allocation of taxing rights to the jurisdiction where the consumer-customer resides.

In particular, the taxation of cross-border supplies of services and intangible B2B goods will take place in the jurisdiction where the customer is established. Business customers will have to calculate VAT on services supplied at a distance or on intangible goods acquired from offshore suppliers according to the rules of the jurisdiction in which they are located. Where the service or intangible asset is supplied to a business established in more than one jurisdiction, the tax should be levied in the jurisdiction where the customer is located, such as the branch of the business making use of the service or intangible asset.[204]

A. 1. iii. Action 3: Designing Effective Controlled Foreign Company Rules

The purpose of Action 3 of the OECD Action Plan[205] is to address the possibility of setting up associated enterprises in other countries and transferring income that would normally have been earned by the taxpayer-participant in its country of residence.

Action 3 refers in particular to income earned by a CFC that is a holding company, income earned by a CFC that provides financial and banking services, income earned by a CFC that engages in sales invoicing, income from intellectual property assets, and income from digital goods and services, which is related to the issue of digital economy. These approaches could be applied individually or combined with each other. The controlled foreign corporation rules ("CFC rules")

[203] OECD, *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*., 309-320
[204] Ibid., paras. 321-339; Savvaidou and Athanasaki, pp. 210-211
[205] OECD, *Designing Effective Controlled Foreign Company Rules, Action 3 - 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project, Paris: OECD Publishing, 2015

generally involve income that is segregated from the underlying value creation to achieve a tax reduction.

In its report on Action 3, the OECD proposes to strengthen the relevant national provisions and makes recommendations on the design of CFC rules. In particular, the OECD proposes specific pillars for the design of effective CFC rules, namely (a) the specification of the definition of the concept of a CFC, (b) the definition of exceptions to the relevant rules and minimum thresholds, (c) the definition of the concept of income to be taken into account for the purposes of the application of the relevant legislation, (d) the calculation of income on the basis of the rules of the parent company's jurisdiction and the proposal that losses of a CFC can only be offset against profits of the same or other CFC established in the same jurisdiction; (e) the attribution of income according to the percentage of ownership or influence over the CFC; and (f) the prevention and elimination of double taxation, which is a fundamental issue of tax policy.

The movement of royalties and intellectual property income poses significant challenges due to the assets' mobility and the ease with which income can be diverted from its origin. This complexity affects foreign-controlled foreign corporation (CFC) rules, as income can be manipulated in various forms under different countries' classifications. Intellectual property asset valuation is complicated due to the absence of accurate comparables and the potential mismatch between cost basis and income generation. Distinguishing income directly from intellectual property assets from related services or products is also a challenging task. Additionally, the digital economy's value is closely tied to intellectual property, with digital goods and services representing a subset of intellectual property income rather than a distinct category.[206]

A. 1. iv. Action 7: Preventing the Artificial Avoidance of Permanent Establishment Status

When the exceptions to the definition of PE provided for in Article 5(4) of the OECD Model Convention were first introduced, the activities covered by these exceptions were generally considered to be preparatory or ancillary activities. Since the introduction of these exemptions, however, there have been dramatic changes in the way business is conducted. Depending on the circumstances, activities which were previously considered merely preparatory or ancillary in nature may now be considered to be core business activities.

Action 7 of the OECD Action Plan[207] revises the definition of PE to avoid the use of tax strategies employed by taxpayers to circumvent the existing definition of PE as derived from the network of international bilateral conventions for avoidance of double taxation. In order to ensure that profits derived from core activities carried out in a country can be taxed in that country, Article 5(4) is amended to ensure that each of the exceptions contained therein is limited to activities that are purely “preparatory or ancillary”.[208]

[206] Savvaidou and Athanasaki, pp. 212-214
[207] OECD, *Preventing the Artificial Avoidance of Permanent Establishment Status, Action 7 - 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project (Paris: OECD Publishing, 2015).
[208] Savvaidou and Athanasaki, pp. 214-215

A. 1. v. Actions 8-10: Aligning Transfer Pricing Outcomes with Value Creation

Actions 8-10 of the OECD Action Plan on transfer pricing[209] are aimed at addressing specific issues related to intra-group transactions, particularly focusing on the alignment of tax outcomes with value creation. The overarching goal is to ensure that profits resulting from intra-group transactions are taxed in the countries where the actual value is generated, a concept referred to as "aligning TP outcomes with value creation".[210]

Actions 8-10 are intended to amend the OECD Guidelines on intra-group pricing and concentrate on three primary sub-categories:

(a) Action 8: This action deals with transactions involving intangible assets. It aims to rectify situations where income allocation related to significant intangible assets leads to erosion of the tax base and profit shifting.
(b) Action 9: This action focuses on the allocation of contractual risks within multinational groups and aims to ensure that profits are allocated based on the assumption of risks and related activities.
(c) Action 10: This action complements Action 9 by further addressing the allocation of profits based on risk-taking and associated activities within multinational enterprises.

Additionally, the Report highlights the emergence of synergistic benefits in the context of multi-faceted digital business models. In such cases, both parties within a multinational group can contribute significantly to the creation of value. The guidelines suggest that when synergies result from coordinated efforts, these benefits should be distributed among group members in proportion to their respective contributions to creating the synergy. However, it can be challenging to precisely benchmark each party's contribution, especially in cases where the parties jointly achieve substantial benefits through cooperative action.

A. 2. The OECD working towards an agreement on a new approach: Policy Notes, Interim Reports, Blueprints

Since 2019, the OECD started to develop the two-pillar approach to taxing the digital economy. The Inclusive Framework approved the Policy Note on “Addressing the Tax Challenges of the Digitalisation of the Economy”.[211] Subsequently, on 12 October 2020, the OECD published under its "BEPS project 2.0" the Blueprints I and II.

[209] OECD, *Aligning Transfer Pricing Outcomes with Value Creation, Actions 8-10 - 2015 Final Reports*, OECD/G20 Base Erosion and Profit Shifting Project (Paris: OECD Publishing, 2015)
[210] Savvaidou and Athanasaki, p. 215-216
[211] OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy – Policy Note*, 2019

Figure 9: Seventh meeting on the Inclusive Framework on BEPS, 28 May 2019, Paris, Headquarter [212]

Moreover, to date, seven progress reports have been published by the Inclusive Framework on BEPS to monitor developments in the area of taxation of the digital economy, referred to as "Interim Reports". Specifically, they cover the periods July 2016 - June 2017, July 2017 - June 2018, July 2018 - May 2019, July 2019 - July 2020, July 2020 - September 2021, September 2021 – September 2022, and September 2022-September 2023.[213] They describe the progress made in the respective time periods in implementing the package of actions to address the BEPS phenomenon.

The landmark agreement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy ("Two-Pillar Solution" or "2021 October Statement" or "Statement") was reached on the 1st of July 2021 and was endorsed by the G20 Leaders' meeting on the 8th of October 2021.[214]

Annex B of the July 2019 - July 2020 report contains the text of the OECD/G20 Inclusive Framework Statement on the two-pillar approach as agreed in January 2020. Also, after the endorsement of the Statement, it was later included also as an Annex in the July 2020 - September 2021 Interim Report.

On the basis of the above global agreement, the G20 Inclusive Framework published a detailed *Commentary on GloBE Rules*[215] and *Explanatory Examples*[216] providing guidance on the operation and intended effects of the rules on tax base erosion ("GloBE Rules"). Also, in order to issue further guidance on the implementation of the relevant rules, the Comprehensive Framework also conducted a public consultation in order to issue an *Implementation Framework* based on the feedback received.

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[212] Credit: OECD / Victor Tonelli. Source: https://www.flickr.com/photos/oecd/47950487112/in/photolist-FCQYPA-27DwbWB-24TLfkb-26xBjVQ-KvAC7S-HZw6vr-2g4e1yi-2g4dS5M-2g4dLCD-2g4dLtk-2g4dLh3-2g4dZsA-2g4dZbU-2g4dQHt-VTtxUk-Ww2Y6d-VTtyw2-2g4dSMD-2g4e1T1-2g4dMfq/

[213] Available at: https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-on-beps-progress-report-september-2022-september-2023.htm (accessed 31/10/2023)

[214] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021'*, OECD/G20 Inclusive Framework on BEPS, 2021

[215] OECD, *Tax Challenges Arising from the Digitalisation of the Economy – Commentary to the Global Anti-Base Erosion Model Rules (Pillar Two)*, 2022, available at: https://www.oecd.org/tax/beps/tax-challenges-arising-from-the-digitalisation-of-the-economy-global-anti-base-erosion-model-rules-pillar-two-commentary.pdf (accessed 30/10/2023)

[216] OECD, *Tax Challenges Arising from the Digitalisation of the Economy –Global Anti-Base Erosion Model Rules (Pillar Two) Examples*, 2022, available at: https://www.oecd.org/tax/beps/tax-challenges-arising-from-the-digitalisation-of-the-economy-global-anti-base-erosion-model-rules-pillar-two-examples.pdf (accessed 30/10/2023)

A. 3. The new two-pillar plan to reform international tax rules (BEPS 2.0)

According to the information published in the main OECD/G20 BEPS website, as of 9 June 2023, following years of complex discussions, 139 states/jurisdictions have joined the October 2021 *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy,* which is the new plan to reform international tax rules and ensure that multinational companies pay their fair share of tax, regardless of the place where they are located.[217] As mentioned above, the plan comprises of two pillars. These pillars are independent but also complementary. Pillar 1 aims at providing a fair distribution of profits and taxing rights across countries and Pillar 2 is aimed at providing a minimum corporate tax rate so as to protect the tax basis for respective countries but also take care of international tax competition to some extent.

A. 3. i. Pillar 1

The first pillar addresses the issue of the allocation of taxing rights between different jurisdictions and outlines proposals to introduce new profit sharing and nexus rules based on the concepts of SEP, "user participation" and "marketing intangibles". Pillar 1 is therefore a significant departure from the standard international tax rules of the last century and moves away from the notion that taxation largely requires a physical presence in a country before that country has a right to tax.

Pillar 1 seeks to rectify the existing disparity in the allocation of profits and tax responsibilities among nations, particularly concerning the most prominent multinational corporations, including those in the digital sector. It endeavours to shift specific tax jurisdiction rights from the home countries of these corporations to the countries where they conduct operations and generate earnings, irrespective of any physical establishment within the latter. This aims to establish a more equitable global tax framework that better reflects the economic activities and revenues generated by these multinational giants.[218]

Specifically, according to the agreement, MNEs with a global turnover of more than twenty billion euros and a profitability of more than ten percent (10%) are covered by the first pillar, with the turnover threshold being reduced to ten billion euros, provided that the mechanism is successfully implemented for seven years. Mining and legally regulated financial services are excluded from the scope of the agreement.

Under the agreement, a new *special purpose nexus rule* will be introduced which will allow the allocation of the "Amount A" to a market jurisdiction when the covered multinational company derives at least one million euros of revenue from that country. In particular for smaller jurisdictions with a GDP of less than forty billion euros, the corresponding revenues are set at 250.000 euros. This special purpose nexus rule is aimed at verifying that a jurisdiction “qualifies” for the allocation of the aforementioned Amount A.[219]

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[217] See: https://www.oecd.org/tax/beps/ (accessed 31/10/2023); See also: https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-members-joining-statement-on-two-pillar-solution-to-address-tax-challenges-arising-from-digitalisation-october-2021.pdf (accessed 31/10/2023); As regards EU Member States, based on the list published in the official website, as of 9 June 2023 all of them have joined the Inclusive Framework, with the exception of Cyprus.

[218] Savvaidou, p. 128

[219] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021*, p.1

For covered multinational companies, 25% of the residual profit, defined as profit in excess of 10% of revenues, will be allocated to market jurisdictions. This will be achieved basically by using a *revenue-based allocation key*. The revenue will be sourced in the *end market jurisdictions* where goods or services are used or consumed.

To facilitate the application of this principle, detailed *source rules* will be developed for specific categories of transactions. In applying the relevant rules, a MNE falling within the scope of Pillar 1 must use a reliable method based on the specific facts and circumstances of the business. The determination of the profit or loss of the covered MNE will be determined by reference to financial accounting income, after making certain limited adjustments. It is noted that losses are carried forward to be offset.

However, in the case where the profits of a MNE falling within the scope of the scheme have already been taxed in the market jurisdiction, a safeguard is provided, which relates to marketing and distribution profits and leads to a limitation of the profits to be allocated to that jurisdiction through the Amount A.

The double taxation of profits allocated to market jurisdictions is eliminated by using either the exemption or the credit method. The entity or entities that incur the tax liability will be derived from those that earn the residual profits.

Under the above-mentioned global agreement, and in particular with regard to the reallocation of tax rights to market jurisdictions, it is envisaged to establish new mandatory binding mechanisms for the prevention and resolution of tax disputes covering the main aspects of the Amount A, including but not limited to the determination of jurisdictions or source of revenue, as well as "related matters", including tax disputes arising in the area of intra-group transactions and disputes related to issues of permanent residence, such as tax disputes arising in the area of intra-group transactions and tax disputes arising in the area of tax treaties.

Furthermore, MNEs falling within the scope will be able to make use of the dispute prevention and resolution mechanisms provided for in order to avoid double taxation of the Amount A, including all issues related to this amount, such as for example differences in the invoicing of intra-group transactions and business profits, in a mandatory and binding manner. Disputes regarding the existence of issues related to Amount A will be resolved in a mandatory and binding manner, without delaying the dispute prevention and resolution mechanism.[220]

Pillar 1 involves also an "Amount B". According to the OECD, "*while the work on Amount A updates the international taxation framework with respect to large and very profitable MNE, Amount B simplifies the existing transfer pricing (TP) rules. It is focused on the application of TP rules to so-called baseline marketing and distribution activities, likely the most frequent fact pattern that MNEs encounter in the jurisdictions where they operate. Reports from some low-capacity jurisdictions estimate that TP disputes relating to distribution activities represent between 30% and 70% of all of their TP disputes. Amount B is intended to increase tax certainty, reduce compliance and administrative costs and in particular assist low-capacity jurisdictions that often suffer from the absence of local market comparables*".[221]

[220] Ibid., p.2

[221] See OECD Secretariat, *Pillar One Amount B in a nutshell,* July 2023, https://www.oecd.org/tax/beps/pillar-one-amount-b-in-a-nutshell.pdf

In short, the application of the "arm's length principle" to key marketing and distribution activities within a country will be simplified and rationalised, with particular emphasis on the needs of low-capacity countries.

The implementation of Amount A will be transpired through the enactment of a Multilateral Convention (MLC), complemented by requisite adjustments to domestic legislation where deemed necessary. The overarching aim is to enable its effective deployment by 2023.

The MLC encompasses guidelines for determining and distributing Amount A, thereby averting the issue of double taxation. It also streamlines administrative processes, facilitates the exchange of tax-related information, and lays out procedures for resolving disputes in a manner that's mandatory and binding for all participating jurisdictions. However, it accommodates those jurisdictions that may choose a different binding dispute resolution method for Amount A-related issues. All of this is geared towards ensuring a consistent and certain application of Amount A and its associated matters. The MLC will be complemented by an Explanatory Statement that elucidates the rationale behind these rules and their operational mechanics.

Importantly, the MLC rules will apply irrespective of whether some jurisdictions had prior tax treaties. In cases where existing tax treaties exist between the parties involved, those treaties will continue to apply to matters beyond the scope of Amount A. However, the MLC will address any inconsistencies between these treaties and Amount A to ensure that Amount A can be effectively implemented. The MLC will also address how it interacts with future tax treaties. Where no prior tax treaty exists between parties, the MLC will establish the necessary framework to ensure the smooth implementation of all aspects of Amount A.

The Task Force on the Digital Economy (TFDE) has been entrusted by the International Fiscal body to define and clarify various aspects of Amount A, such as eliminating double taxation and establishing a safe harbor for Marketing and Distribution Profits. Additionally, the TFDE is responsible for drafting the MLC and negotiating its content. This comprehensive effort is aimed at enabling all jurisdictions committed to the Statement to participate effectively.[222]

Finally, in the previous years, in the absence of a global solution, some countries unilaterally adopted rules for the taxation of the digital economy. The MLC will require all parties to repeal all existing Digital Services Taxes and other relevant similar measures that may have been taken with respect to all companies and to commit not to adopt such measures in the future. Accordingly, no new Digital Services Taxes or other relevantly similar measures will be imposed on any company from 8 October 2021 until 31 December 2023 or the entry into force of the MLC.[223]

A. 3. ii. Pillar 2

The second pillar, which is also referred to as “Global Anti-Base Erosion Proposal” or “GloBE proposal”, seeks to set a limit to competition on corporate income tax by establishing a global minimum corporate tax rate that countries can use to protect their tax bases. A global minimum corporate income tax, with a minimum rate of at least 15%, is estimated to generate around USD

[222] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021*, p.6
[223] Ibid., pp.3 and 7; Fortsakis and Tsourouflis, p.342

150 billion in additional global tax revenues annually. Additional benefits would result from the stabilisation of the tax system and increased tax certainty for taxpayers and tax administrations.[224]

More specifically, Pillar 2 consists of two parts: the first part concerns the domestic law of states and the second part consists of a rule which is proposed to be included in the conventions for the avoidance of double taxation between states.

With regard to the first part of Pillar 2, it is proposed to adopt two rules in the domestic legal order which complement each other and which together form the international rules to combat tax base erosion ("Global Anti-Base Erosion Rules" or "GloBE rules"). The first rule imposes a top-up tax on a parent company in respect of income earned by its subsidiary in a low-taxing state. This rule is called the "Income Inclusion Rule" (IIR). The second rule disallows a deduction or makes a proportionate adjustment for additional tax to the extent that income of a subsidiary subject to low tax is not subject to tax under the IIR rule. This rule is called the "Undertaxed Payment Rule" (UTPR). The IIR takes precedence over the UTPR. The minimum tax rate for the application of the IIR and UTPR is 15%. These rules apply to MNEs that meet the EUR 750 million threshold. Countries are free to apply the IIR to MNEs based in their country, even if they do not meet the threshold. Government entities, international organisations, non-profit organisations, pension funds or investment funds that are ultimate parent entities of a multinational group or any portfolio schemes used by such entities, organisations or funds are not subject to the GloBE rules.

These rules are not binding on Member States but they represent a common approach. This means that if States decide to adopt the GloBE rules, they will have to follow the common approach that has been agreed. It also means that a State, even if it chooses not to adopt the GloBE rules, accepts the choice of other States to adopt them and the consequences of doing so.[225]

As regards the second part of Pillar 2, this consists of a rule which is proposed to be included in the conventions for the avoidance of double taxation. According to this rule the source state may impose a tax on certain payments to related parties which are subject in their residence state to a tax below a minimum threshold. This rule is called the "Subject To Tax Rule" (STTR). The minimum tax rate for purposes of the STTR rule is 9%.

There are some exceptions to the application of these rules, the adoption of safe harbours to avoid disproportionate administrative costs and technical details for their application.[226]

The Pillar 2 rules are foreseen to be adopted by States in 2022 with a view to entering into force from 2023, except for the UTPR, which is foreseen to enter into force from 2024. Already the OECD published on 20 December 2021 detailed first rules that states wishing to adopt the Pillar 2 rules can use.[227]

With regard to developing countries, it is foreseen that if a country's corporate income tax rate is lower than 9%, then the STTR rule for interest, royalty and certain other payments will be agreed in that country's double tax treaties with developing countries, if the developing countries so request. The tax entitlement in this case is limited to the difference between the minimum rate

[224] Savvaidou, p. 128
[225] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021,* pP. 3-4; Fortsakis and Tsouroufis, p. 343
[226] OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021*, p. 5
[227] Fortsakis and Tsouroufis, pp. 343-344

(9%) and the lowest tax rate to which such income or payments are subject in the recipient's country.[228]

The OECD also provides support to developing countries in this project in other ways, including through a series of regional digitalisation events held in partnership with regional organisations and development banks, and through extensive technical assistance programmes.[229]

B. The approach of the European Union

The EU has been at the forefront of international efforts to adapt tax policies to the changing landscape of the digital economy. As technology continues to reshape business models and cross-border transactions, the EU has sought to ensure that the taxation of digital activities is fair, transparent, and aligned with the principles of the single market. The EU is interested in ensuring that European companies can do business on a level playing field globally and that it remains among the global leaders in the digital economy.

B. 1. Overview of the most important initiatives of the European Union

EUs measures for taxing the digital economy evolve around the "Digital Single Market", a multifaceted strategy that aims to create a more integrated and competitive digital environment for European businesses, set out by the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 6.5.2015.[230] The strategy sets out 16 targeted actions based on 3 pillars: a) better access for consumers to digital goods and services across Europe, b) creating the right conditions and a level playing field for digital networks and innovative services to flourish, c) maximising the growth potential of the digital economy. In this context, it is necessary to reduce the administrative burden to businesses caused by different VAT regimes and to ensure that VAT revenue is paid to the state of the consumer.

One of the earliest steps in the EU's journey to adapt to the digital economy was the "VAT E-Commerce Package". This package includes Directive 2017/2455,[231] Regulation 2017/2454[232] and Implementing Regulation 2017/2459.[233] The package introduces, inter alia, two important measures for digital platforms, namely, on the one hand, their recognition as taxable persons in certain cases under certain conditions and, on the other hand, their obligation to store data when

[228] Ibid., p. 344
[229] Savvaidou, p. 128
[230] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Digital Single Market Strategy for Europe, 6.5.2015, COM(2015) 192 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52015DC0192
[231] Council Directive (EU) 2017/2455 of 5 December 2017 amending Directive 2006/112/EC and Directive 2009/132/EC as regards certain value added tax obligations for supplies of services and distance sales of goods, ELI: http://data.europa.eu/eli/dir/2017/2455/oj
[232] Council Regulation (EU) 2017/2454 of 5 December 2017 amending Regulation (EU) No 904/2010 on administrative cooperation and combating fraud in the field of value added tax, ELI: http://data.europa.eu/eli/reg/2017/2454/oj
[233] Council Implementing Regulation (EU) 2017/2459 of 5 December 2017 amending Implementing Regulation (EU) No 282/2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax, ELI: http://data.europa.eu/eli/reg_impl/2017/2459/oj

they perform intermediary functions in order to keep sufficiently detailed records of supplies of goods or services.

Moreover, in December 2015, the European Parliament passed a resolution that provided recommendations to the European Commission on bringing transparency, coordination, and convergence to corporate tax policies within the EU.[234] The resolution called for a redefinition of PE and the establishment of "minimum economic presence" thresholds. In particular, according to the European Parliament, the amendment of the above definition of PE is necessary to ensure that taxation is levied at the place where the economic activity is carried out and value is created. It should be accompanied by minimum binding criteria in order to establish that the economic activity has sufficient substance to be taxed in a Member State in order to address the problem of so-called "letterbox entities".[235] At the same time, the European Commission was asked to submit a legislative proposal to establish a definition at EU level of 'minimum economic substance', which would also cover the digital economy, in order to ensure that companies are actually creating and adding value to the economy of the Member State in which they have a financial presence. The above two definitions should be part of an explicit ban on so-called "letterbox entities".[236]

Another crucial legislative measure by the EU that aims at curbing tax avoidance practices and is related to the taxation of the digital economy is the Council Directive (EU) 2016/1164, known as the "Anti-Tax Avoidance Directive" (ATAD I).[237] It seeks to create a unified approach to tackle aggressive tax planning and harmful tax competition among member states. ATAD addresses various concerns in corporate taxation, incorporating measures such as CFC Rules, General Anti-Abuse Rule, Interest Limitation Rules, and regulations related to Hybrid Mismatches. These provisions work towards preventing profit shifting, challenging arrangements lacking commercial substance, limiting excessive interest deductions, and resolving discrepancies in the treatment of financial instruments across jurisdictions. The directive's overarching goal is to foster tax fairness, promote transparency, and discourage aggressive tax planning strategies. By promoting uniformity in tax practices, ATAD aims to establish a level playing field for businesses and reduce harmful tax competition within the European Union. It is part of a global effort to ensure businesses contribute their fair share of taxes, thereby strengthening the stability and sustainability of the international tax system. ATAD I was later amended through the Council Directive (EU) 2017/952 of 29 May 2017 (ATAD II).[238]

In October 2016, the European Commission proposed the revival of the Common (Consolidated) Corporate Tax Base (C(C)CTB), a singular framework intended to calculate the taxable profits of

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[234] European Parliament Resolution of 16 December 2015 with Recommendations to the Commission on Bringing Transparency, Coordination and Convergence to Corporate Tax Policies in the Union (2015/2010(INL)), available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015IP0457

[235] According to the European Trade Union Institute, "letterbox companies" are legal entities set up by businesses to benefit from a regulatory framework in a jurisdiction in which they have little or no material operations. They enable 'regime shopping' for lower taxes, wages, labour standards and social contributions, as well as for different legal rights under bilateral treaties. See K. McGauran, *Ending regulatory avoidance through the use of letterbox companies,* ETUI, The European Trade Union Institute, https://www.etui.org/publications/policy-briefs/european-economic-employment-and-social-policy/ending-regulatory-avoidance-through-the-use-of-letterbox-companies (accessed October 12, 2023)

[236] Savvaidou and Athanasaki, pp. 265-266.

[237] Council Directive (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market, ELI: http://data.europa.eu/eli/dir/2016/1164/oj

[238] Council Directive (EU) 2017/952 of 29 May 2017 amending Directive (EU) 2016/1164 as regards hybrid mismatches with third countries, ELI: http://data.europa.eu/eli/dir/2017/952/oj

companies operating within the EU.[239] In particular, the proposal for the CCTB Directive sets out detailed measures establishing a harmonised common tax base at EU level, a single definition and a commonly accepted and universally applicable system for calculating the tax base between Member States. This system will apply to all groups of companies with a total turnover exceeding EUR 750 million which carry on business within the internal market through a tax presence in a Member State. At the same time, the proposal for the CCCTB Directive promotes additional detailed measures establishing a harmonised EU-wide consolidated tax base and an apportionment mechanism for the tax base, which will be accompanied by a tax administration system for the underlying groups of companies. In practice, a tax return will be filed in one EU country and further the consolidated results will be apportioned between the Member States in which the group has a presence, based on a specific mathematical formula. Furthermore, each Member State will tax at the national tax rate the taxable profits corresponding to the local subsidiary or PE. The formula for the allocation of taxable profits to countries takes into account sales, assets, labour costs, number of employees and other data.

Moreover, preceded by the EU Commission Communication entitled "Time to Establish a Modern, Fair and Efficient Taxation Standard for the Digital Economy",[240] on 21 March 2018, the European Commission published two legislative proposals on the taxation of digital business activities in the EU (referred to as the "EU's Digital Taxation Package"). The first proposed directive[241] offers a long-term solution based on the creation of a "Significant Digital Presence" (SDP) as a supplement to existing PE rules and was accompanied by a recommendation for Member States to renegotiate their tax treaties with third countries accordingly. This proposal outlined three criteria for establishing a SEP, which related to the revenue generated in a member state, the number of users and the number of business contracts concluded.[242] Once a SEP is identified, the proposal outlined a method for attributing profits to it. This approach aimed to ensure that profits from digital activities were taxed where they were genuinely earned. The second proposed directive[243] offers a short-term solution in the form of a 3% turnover tax on a certain digital services (the so-called Digital Services Tax or DST), which effectively represents an equalization tax tailored to address value creation through user participation and not, for example, through data consumption. However, both of these proposals (i.e. SDP and DST) fell short of securing consensus in the Council, as unanimity was not achieved.

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[239] Proposal for a Council Directive on a Common Consolidated Corporate Tax Base (CCCTB), COM(2016) 683 final, available at: https://taxation-customs.ec.europa.eu/system/files/2016-10/com_2016_683_en.pdf (accessed 15/10/2023); Proposal for a Council Directive on a Common Corporate Tax Base, COM(2016) 685 final, available at: https://taxation-customs.ec.europa.eu/system/files/2016-10/com_2016_685_en.pdf (accessed 15/10/2023); see also Factsheet available at: https://taxation-customs.ec.europa.eu/system/files/2016-11/ctr_factsheet2016.pdf (accessed 15/10/2023).

[240] Communication from the Commission to the European Parliament and the Council, Time to establish a modern, fair and efficient taxation standard for the digital economy, COM(2018) 146 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0146

[241] Proposal for a Council Directive laying down rules relating to the corporate taxation of a significant digital presence, COM(2018) 147 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018PC0147

[242] In particular, for a SDP to be established, the following must be cumulatively or disjunctively present: i) the total revenue (in the same tax period) derived from the provision of digital services to users established in a Member State must exceed EUR 7 million, or ii) the number of users must exceed 100,000, and/or iii) the number of relevant B2B contracts must exceed 3,000.

[243] 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 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A148%3AFIN

Furthermore, in October 2020 the European Commission presented a proposal for a "digital levy",[244] which would apply to digital businesses with annual revenues exceeding a specific threshold. This levy, distinct from the DST, intended to capture a share of the digital economy's profits and create a fair tax environment. However, following the historic agreement of 8 October 2021 on a reform of the international tax framework and the subsequent adoption of a two-pillar solution to tackle tax avoidance,[245] the European Commission presented on 22 December 2021 a proposal for a Directive to ensure a worldwide minimum level of taxation for multinational groups in the EU[246] with the aim of establishing a minimum level of effective corporate taxation for large multinational groups and large-scale purely domestic groups operating in the single market, which is in line with the above-mentioned two-pillar agreement, effectively abandoning its proposal for a Directive on the digital levy.[247] The final text of the Directive was published on 22 December 2022, exactly one year after the initial proposal was released by the European Commission, and it entered into force on 23 December 2022.[248]

Also, on 22 December 2021, the European Commission published an anti-tax-avoidance directive intended to neutralise the misuse of shell entities for tax purposes. Known as "ATAD III" or as the "Unshell Directive",[249] the draft Directive is aimed at EU-resident entities, including SMEs, partnerships, trusts and other legal arrangements which claim benefits under double tax treaties and other EU Directives, but which lack a minimum level of economic substance. The proposal was intended to be transposed into domestic law by EU Member States by 30 June 2023, and to come into effect from 1 January 2024. However, Member States under the Swedish Presidency of the Council have struggled to reach agreement on some key aspects of the proposals.[250]

Moreover, the European Commission adopted on 12 September 2023 the "Business in Europe: Framework for Income Taxation" (BEFIT) package, including two Directive proposals.[251] The BEFIT package replaces the CCCTB and CCTB proposals. Its objectives are to decrease tax compliance costs for big companies —especially those that operate in multiple Member States— and facilitate national authorities' ability to identify the taxes that are legitimately owed.

Lastly, it is important to mention that the EU has also taken various initiatives to enhance the exchange of tax information between member states, as it is a crucial factor facing the tax

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[244] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12836-A-fair-competitive-digital-economy-digital-levy (accessed October 12, 2023)

[245] See above, chapter IV.A.3.

[246] Proposal for a Council Directive on Ensuring a Global Minimum Level of Taxation for Multinational Groups in the Union (2021), available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0823

[247] Savvaidou and Athanasaki, p. 282.

[248] Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union, ELI: http://data.europa.eu/eli/dir/2022/2523/oj

[249] Proposal for a Council Directive laying down rules to prevent the misuse of shell entities for tax purposes and amending Directive 2011/16/EU, COM(2021) 565 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0565; see also KPMG, One-Page Summary, available at: https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2022/09/eu-unshell-directive.pdf (accessed October 16, 2023)

[250] Ecofin report to the European Council on tax issues, Brussels, 16 June 2023, 10710/23, available at: https://data.consilium.europa.eu/doc/document/ST-10710-2023-INIT/en/pdf

[251] The BEFIT package includes i) Proposal for a Council Directive on Business in Europe: Framework for Income Taxation (BEFIT), COM(2023) 532 final 2023/0321 (CNS), available at: https://taxation-customs.ec.europa.eu/system/files/2023-09/COM_2023_532_1_EN_ACT_part1_v6.pdf (accessed 14 October 2023) and ii) Proposal for a Council Directive on transfer pricing, COM(2023) 529 final 2023/0322 (CNS), available at: https://taxation-customs.ec.europa.eu/system/files/2023-09/COM_2023_529_1_EN_ACT_part1_v7.pdf (accessed 14 October 2023)

challenges in the digital economy. In particular, in an effort to combat aggressive tax planning by MNEs and enhance tax transparency, the EU introduced Directive 2021/514[252], known as "DAC 7", with effect on 1 January 2023. This directive builds upon previous iterations of the Directive on Administrative Cooperation (DAC)[253] and expands the scope of automatic exchange of information between tax authorities. It requires digital platforms, regardless of whether they are established in the EU or in a third country, to report to tax authorities the income earned by their users (sellers). This information-sharing mechanism helps tax authorities identify tax liabilities and improve tax collection.

Also, the European Union has moved to extend the exchange of information, in addition to the platform economy, to electronic assets. In particular, on 8 December 2022, the European Commission proposed to set up a reporting framework which would require crypto-asset service providers to report transactions made by EU clients (called "DAC 8").[254] In a plenary session on 13 September 2023, the European Parliament voted overwhelmingly in favour of the DAC 8. EU member states now have until 31 December 2025 to implement the rules, which are set to officially take effect on 1 January 2026.

Having mentioned briefly the most important initiatives of the EU in facing the challenges of taxing the digital economy, the following sections will examine the Council Directive (EU) 2022/2523 and the BEFIT package in more detail since they represent the most recent legislative advances in this field.

B. 2. Council Directive (EU) 2022/2523 of 14 December 2022 on Ensuring a Global Minimum Level of Taxation for Multinational Enterprise Groups and Large-Scale Domestic Groups in the Union

The European Union's Council Directive on Ensuring a Global Minimum Level of Taxation for Multinational Groups in the Union,[255] also referred to as the "Pillar Two Directive" or the "Minimum Tax Directive" aims to implement and enforce the globally agreed minimum standards for the effective corporate taxation of large multinational groups operating within the EU's Single Market. Aligning closely with the 8th October 2021 agreement by the Inclusive Framework (IF) and the OECD Model Rules published on 20th December 2021, this Directive ensures a coherent and consistent implementation of the two-Pillar agreement across the EU member states, respecting the specifics of EU law and the Single Market. Specific provisions outline the entities subject to the Directive, including large-scale purely domestic groups, while excluding certain entities such as governmental bodies, non-profit organizations, and investment entities in line with the tax neutrality principle. The Minimun Tax Directive entered into force on 23 December 2022,

[252] Council Directive (EU) 2021/514 of 22 March 2021 amending Directive 2011/16/EU on administrative cooperation in the field of taxation, ELI: http://data.europa.eu/eli/dir/2021/514/oj

[253] Council Directive 2011/16/EU of 15 February 2011 on administrative cooperation in the field of taxation and repealing Directive 77/799/EEC, ELI: http:// data.europa.eu/eli/dir/2011/16/oj

[254] Proposal for a Council Directive amending Directive 2011/16/EU on administrative cooperation in the field of taxation, COM(2022) 707 final, available at: https://ec.europa.eu/transparency/documents-register/detail?ref=COM(2022)707&lang=en (accessed 14 October 2023)

[255] Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union, ELI: http://data.europa.eu/eli/dir/2022/2523/oj

with the exception of the UTPR, the allocation of which shall apply in respect of the fiscal years beginning from 31 December 2024.

B. 2. i. Chapter I: General Provisions

Chapter 1 of the Directive elucidates the scope and definitions within the Directive, specifying the jurisdictional location of constituent entities and determining their tax residency for the purposes of the Directive. It also provides tie-breaker clauses for certain situations.

In particular, the scope of the Directive is defined by reference to constituent entities located in the Union that are part of MNE groups or large-scale domestic groups (consisting of Constituent Entities as members) with a consolidated group revenue of at least EUR 750 million in at least two of the four preceding years (art. 2).

In connection with the location of a constituent entity, including a PE, the Directive deems that a constituent entity, other than a PE or flow-through entity, is located in the jurisdiction where it is considered as resident for tax purposes. Where the location of such constituent entity cannot be ascertained based on this rule, then it is deemed to be located in the jurisdiction where it was established. The Directive also determines the location of a constituent entity that is a PE, and includes tie-breaker clauses for specific situations (art. 4).

B. 2. ii. Chapter II: Income Inclusion Rule and Under Taxed Payments Rule

Chapter 2 clarifies the conditions under which the IIR applies, accounting for various scenarios such as the presence of the Ultimate Parent Entity (UPE)[256] in the EU or its absence, and the nature of PEs. Additionally, it addresses the application of the IIR to large-scale domestic groups and the Domestic Top-Up Tax option. This chapter also discusses the application of the UTPR in different scenarios, accounting for the location of the UPE and its subsidiaries.

B. 2. ii. a. The Income Inclusion Rule (IIR)

The IIR comes into play in a few different situations, which are provided in articles 5-9 of the proposal Directive:

1. If the UPE is in the EU: The UPE will be subject to additional tax for its constituent entities with low tax rates, whether in the EU or in other countries outside the EU.

[256] According to article 3(14) of the Directive 2022/2523, *"'ultimate parent entity' means: (a) an entity that owns, directly or indirectly, a controlling interest in any other entity and that is not owned, directly or indirectly, by another entity with a controlling interest in it; or (b) the main entity of a group as defined in point (3)(b);* According to article 3(3) of the Directive 2022/2523 *'group' means: (a) a collection of entities which are related through ownership or control as defined by the acceptable financial accounting standard for the preparation of consolidated financial statements by the ultimate parent entity, including any entity that may have been excluded from the consolidated financial statements of the ultimate parent entity solely based on its small size, on materiality grounds or on the grounds that it is held for sale; or (b) an entity that has one or more permanent establishments, provided that it is not part of another group as defined in point (a);*

2. If there's an EU-based Intermediary Parent Entity (IPE)[257] or Predecessor Parent Entity (POPE)[258] with the UPE outside the EU: If there is no UPE in the EU, the low-taxed constituent entities of the MNE group in the EU would effectively be taken into account by the third-country UPE of the Group if it applies the IIR. However, if there is at least one POPE or one IPE (if the jurisdiction where the UPE is located does not apply an IIR) in the EU, then the IPE/POPE will be subject to the top-up tax in respect of their low-taxed directly or indirectly owned constituent entities in the EU and third country jurisdictions.
3. If there's a POPE in the EU with the UPE in the EU: In this case, the first POPE in the hierarchy will be liable for the top-up tax for its subsidiaries with low tax rates. Other POPEs up to the UPE will also be subject to the IIR but with a credit for the tax paid by the lower POPE.

The Directive determines how much of a constituent entity's top-up tax a Parent Entity is entitled to collect through the IIR. This allocable share is, in general, based on the proportion of the parent entity's interest in the income of the low-taxed constituent entity.

Furthermore, in the case of large-scale domestic groups, the ultimate parent entity located in a Member State is subject to the IIR top-up tax in respect of its low-taxed constituent entities.

B. 2. ii. b. Domestic Top-Up Tax

To maintain the sovereignty of Member States, the Directive allows a Member State to apply the additional tax domestically to entities in its territory (Domestic Top-up Tax). This option permits the tax to be collected where low taxation occurred rather than at the UPE level.

B. 2. ii. c. The Undertaxed Payments Rule (UTPR)

Under the UTPR, if the UPE is located outside the EU in a non-compliant jurisdiction, all its subsidiaries in jurisdictions with appropriate tax rules will be subject to the UTPR. This rule applies to situations where the UPE, along with its subsidiaries in the same jurisdiction, are undertaxed. The UTPR also accounts for the number of employees and the value of tangible assets, in line with the OECD Model Rules.

B. 2. iii. Chapters III-V: Calculations

Chapter III provides rules for determining the 'qualifying income or loss' of constituent entities, considering adjustments to the financial accounting net income or loss, as well as exclusions related to specific types of income.

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[257] According to article 3(20) of the Directive 2022/2523, ""*intermediate parent entity" means a constituent entity that owns, directly or indirectly, an ownership interest in another constituent entity in the same MNE group or large-scale domestic group and that does not qualify as an ultimate parent entity, a partially-owned parent entity, a permanent establishment or an investment entity"*

[258] According to article 3(22) of the Directive 2022/2523, '*partially-owned parent entity' means a constituent entity that owns, directly or indirectly, an ownership interest in another constituent entity of the same MNE group or large-scale domestic group, and for which more than 20 % of the ownership interest in its profits is held, directly or indirectly, by one or several persons that are not constituent entities of that MNE group or large-scale domestic group and that does not qualify as an ultimate parent entity, a permanent establishment or an investment entity;"*

Chapter IV outlines the mechanism for calculating 'adjusted covered taxes' of a constituent entity, emphasizing the principle of assigning taxes to the jurisdiction where the profits were earned.

Chapter V delves into the calculation of the effective tax rate and subsequent computation and allocation of the top-up tax, considering the minimum effective tax rate, substance-based income exclusion, and specific provisions for minimal amounts of profit.

B. 2. iv. Chapter VI: Special Rules for Mergers and Acquisitions

This Chapter outlines specific rules concerning mergers, acquisitions, joint ventures, and multi-parented MNE groups. It introduces the concept of a consolidated revenue threshold for group members involved in mergers or demergers (article 31). When an MNE group acquires or sells a constituent entity according to these guidelines, the entity is considered part of both groups for the year, with adjustments made to the attributes' values used for implementing the GloBE Rules. These adjustments pertain to covered taxes, eligible payroll, eligible tangible assets, and GloBE deferred tax assets (article 32). Furthermore, it establishes guidelines for recognizing gains or losses and carrying values during the transfer of assets and liabilities, including reorganizations (article 33). Additionally, there's a specific provision to include joint ventures, which would not be encompassed in the definition of an MNE group for GloBE purposes otherwise (article 34). Lastly, it introduces a specific provision for multi-parented MNE groups, treating the group entities as a unified MNE group (article 35).

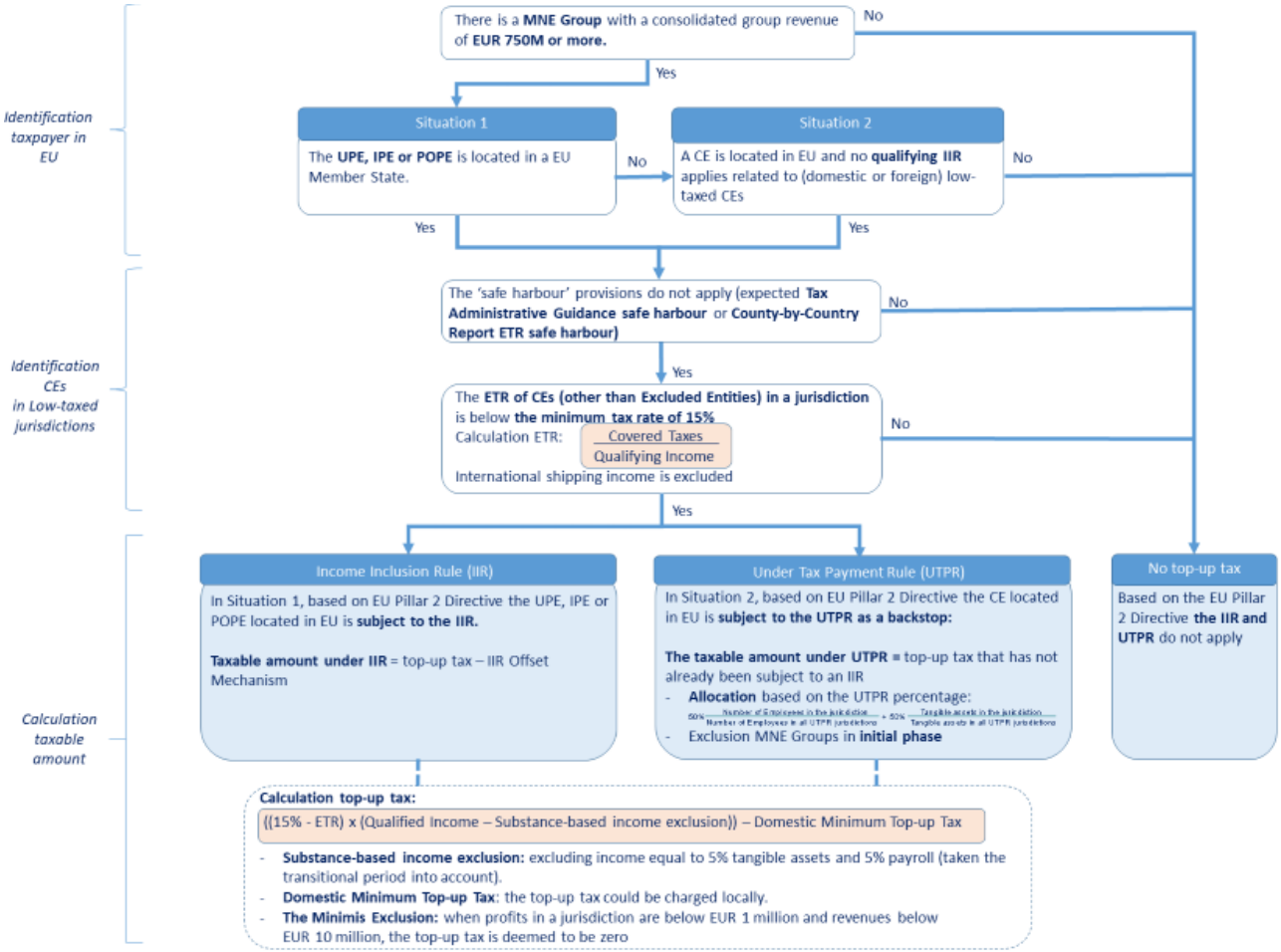

Figure 10: Flow chart of the operation of the rules in the EU [259]

B. 3. "Business in Europe: Framework for Income Taxation" (BEFIT) package

Dealing with 27 distinct national tax systems, each with its own set of regulations, increases the expense of tax compliance for businesses. As a result, there is a deterrent to cross-border investment within the EU, which disadvantages European enterprises in the global marketplace. To face this issue effectively, on 12 September 2023 the European Commission adopted the "Business in Europe: Framework for Income Taxation" (BEFIT) package.[260] It includes two Directive proposals and it aims to decrease tax compliance costs for big corporations —especially those that operate in multiple Member States— and facilitate the process of identifiyng taxed that are legitimately owned for national authorities.

[259] Explanatory Memorandum of Proposal for a Council Directive on Ensuring a Global Minimum Level of Taxation for Multinational Groups in the Union (2021), available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0823

[260] The BEFIT package includes i) Proposal for a Council Directive on Business in Europe: Framework for Income Taxation (BEFIT), COM(2023) 532 final 2023/0321 (CNS), available at: https://taxation-customs.ec.europa.eu/system/files/2023-09/COM_2023_532_1_EN_ACT_part1_v6.pdf (accessed 14 October 2023) and ii) Proposal for a Council Directive on transfer pricing, COM(2023) 529 final 2023/0322 (CNS), available at: https://taxation-customs.ec.europa.eu/system/files/2023-09/COM_2023_529_1_EN_ACT_part1_v7.pdf (accessed 14 October 2023).

BEFIT is an initiative that builds on the OECD/G20 international tax agreement on a global minimum level of taxation and the Pillar Two Directive and replaces the C(C)CTB proposals. It will mean that companies that are members of the same group will calculate their tax base in accordance with a common set of rules and the tax bases of all members of the group will be aggregated into one single tax base. Also, each member of the BEFIT group will have a percentage of the aggregated tax base calculated on the basis of the average of the taxable results in the previous three fiscal years. These simpler rules could reduce tax compliance costs for businesses operating in the EU by up to 65%. The new rules will be mandatory for groups operating in the EU with an annual combined revenue of at least € 750 million. [261]

The package also includes a proposal to harmonize transfer pricing rules within the EU and ensure a common approach to transfer pricing. The proposal will increase tax certainty and mitigate the risk of litigation and double taxation. The Directive will also make it harder for corporations to exploit transfer pricing for aggressive tax planning purposes.

Once adopted by the Council, the proposals should come into force on 1 July 2028 (for BEFIT) and as of 1 January 2026 (for the TP proposal).

V. Taxation of cryptocurrencies

The widespread use of digital currencies has prompted the need for a detailed examination of their tax implications.[262] The cryptocurrency market poses a threat to global tax transparency. This is due to the transition of financial activity from conventional intermediaries to a newer set of intermediaries whose operations are gradually being regulated, yet they are not currently subjected to tax reporting requirements for their clients.[263] A detailed examination of the tax implications of cryptocurrencies would involve examining various aspects, including their transfer, exchange and storage.

Another issue is the capacity for individuals to possess anonymous wallets that are detached from any service provider, and to transport them across all jurisdictions, which presents a potential for their misuse in unlawful endeavors and for engaging in tax evasion or avoidance. In sum, the attributes inherent in the cryptocurrency domain have diminished tax authorities' capability to discern the operations conducted within the sphere, amplifying the challenge of verifying accurate disclosures of pertinent tax obligations and the allocation of corresponding taxes.[264]

Digital currencies differ widely as regards their legal structure and business model. This Chapter will refer mainly to Bitcoin, as it was the first cryptocurrency created and enjoys the largest market capitalization of all cryptocurrencies.[265]

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[261] European Commission, *BEFIT Factsheet*, available at: https://taxation-customs.ec.europa.eu/system/files/2023-09/BEFIT%20Factsheet.pdf (accessed 18/10/2023)
[262] Savvaidou and Athanasaki, p. 286
[263] OECD, *Crypto-Asset Reporting Framework and Amendments to the Common Reporting Standard*, Public Consultation Document, 2022, available at: https://www.oecd.org/tax/exchange-of-tax-information/public-consultation-document-crypto-asset-reporting-framework-andamendments-to-the-common-reporting-standard.pdf (accessed 31/10/2023); Savvaidou and Athanasaki, p.303
[264] Savvaidou and Athanasaki, p. 303
[265] Tumpel and Kofler, p. 183

A. The complicating factors

The taxation of cryptocurrencies is a complex issue, contingent on how they are categorized within different national tax systems. The definition given by the states is crucial as it largely determines whether and what kind of tax liability will arise. According to an OECD survey, most of its member states perceive cryptocurrencies, at a tax level, as income arising from transferable intangible securities. In some countries, however, cryptocurrencies were classified as business income. In a few of the above states, cryptocurrencies are considered taxable profits arising from exchange differences. Among the states there are also significant differences regarding the economic activity in which cryptocurrencies are involved, if it is an activity that is taxed from the mining of cryptocurrencies or during their transfer.[266]

Moreover, a crucial issue revolves around determining the moment for calculating the value of mined cryptocurrencies for tax compliance. One approach suggests recognizing taxable income upon the completion of mining, based on the cryptocurrency's value at that specific time. However, it's widely acknowledged that the primary goal of mining is not to retain these assets, but rather to sell them or utilize them for transactions to obtain other tangible or intangible goods. Embracing this stance leaves open the question of how to treat any profit or loss that may arise during the use of these cryptocurrencies.

Alternatively, another perspective could propose that the value of the mined cryptocurrencies is determined at a later stage, either upon their liquidation or at the time of conversion into real currency. This approach would provide a clearer understanding of the earnings acquired by the mining operator. Yet, critics might argue that this viewpoint fails to account for the time gap between the mining process and the eventual liquidation or conversion.

A. 1. Cryptocurrencies as a means of payment

Within the realm of digital currencies, the Court of Justice of the European Union (CJEU) has grappled with VAT inquiries. In its notable ruling on the matter, *Hedqvist,*[267] the CJEU, in alignment with Advocate General Juliane Kokott's perspective,[268] categorized Bitcoins as a pure means of payment, primarily intended for future transactions. While emphasizing its function as a medium of exchange, the court did not contemplate that Bitcoins are not exclusively limited to this role, potentially serving broader purposes such as speculative or investment endeavors. Notably, the decision emphasized the principle of fiscal neutrality, arguing that the mere transfer of Bitcoin does not constitute a chargeable event within the scope of VAT, drawing on the CJEU's precedent in the *First National Bank of Chicago* case.[269]

In its ruling, the Court concluded that the transactions falling under Article 135(1)(e) of the VAT Directive[270] encompass the provision of services and goods, including exchanges of currency between contractual currencies and units of the Bitcoin virtual currency. These transactions are exempt from VAT, provided that a payment is made reflecting the profit margin arising from the

[266] Savvaidou and Athanasaki, p. 290
[267] *Hedqvist*, C-264/14, Judgement, EU:C:2015:718
[268] *Hedqvist*, C-264/14, AG Opinion, EU:C:2015:498
[269] *First National Bank of Chicago*, C172/96, Judgement, EU:C:1998:354, paras. 25-35
[270] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, ELI: http://data.europa.eu/eli/dir/2006/112/2022-07-01

difference between the purchase price and the selling price. Points (d) and (f) of Article 135(1) of the VAT Directive, however, do not apply to the supply of such services.[271]

Following the CJEU's decision, there has been a degree of uniformity among EU member states regarding the VAT treatment of cryptocurrency transactions in the common market. This treatment involves the exclusion of cryptocurrency purchases and sales from the purview of VAT. Exemptions are applied to any transaction fees and are evaluated on a flat-rate basis, varying on a country-by-country basis in line with the European Commission's non-binding revised decision on VAT matters,[272] updated subsequent to the aforementioned judgment.[273]

A. 2. Cryptocurrencies and private investment

Regarding private investments in digital currencies, the VAT treatment can differ when the acquisition of Bitcoin is for speculative purposes. Drawing from the CJEU decision in *EDM*,[274] it is established that the mere purchase and sale of shares and similar securities does not qualify as an economic activity. Essentially, transactions conducted by private investors, without an ongoing business trading in securities, are considered outside the scope of the VAT Directive. Nonetheless, continuous exchanges or occasional transactions involving digital currencies may fall within the purview of the VAT Directive but are likely to be exempt from VAT under its Article 135(1)(e). This approach suggests that buying and selling digital currencies as a private investor is not perceived as an economic activity and therefore falls beyond the scope of the VAT Directive.[275]

A. 3. Mining

As mentioned in the first Chapter, mining involves the process of validating transactions within the blockchain network. The act of verifying transactions and adding them to the blockchain, facilitated by miners, serves as a means to achieve a secure and tamper-resistant consensus among the network nodes. Miners receive compensation in the form of transaction fees and newly generated cryptocurrencies, which raises the question of whether their services should be subject to VAT.

The VAT Directive necessitates a legal relationship between the service provider and the recipient, where the remuneration received constitutes the value given for the service. While the direct link between the services rendered by miners and the consideration received seems apparent, the lack of an exchange of virtual currency beyond the transaction fee complicates the matter. This ambiguity extends to the applicability of the VAT exemptions outlined in Article 135(1)(d) and (e) of the VAT Directive, considering the requirement for the transfer to fulfill specific functions beyond technical or physical supply.

Additionally, the allocation of cryptocurrencies to successful miners is seen as an incentive to maintain the decentralized ledger of all transactions within the network, rather than direct

[271] Tumpel and Kofler, p. 184
[272] European Commission Value Added Tax Committee (2016), *Issues arising from recent judgments of the Court of Justice of the European Union, 135(1)(e) and (d) SUBJECT: CJEU Case C-264/14 Hedqvist: Bitcoin*, No. 892, https://circabc.europa.eu/sd/a/add54a49-9991-45ae-aac5-1e260b136c9e/892%20-%20CJEU%20Case%20C-264-14%20Hedqvist%20-%20Bitcoin.pdf (accessed 31/10/2023)
[273] Savvaidou and Athanasaki, p. 300
[274] *EDM*, C-77/01, Judgement, EU:C:2004:243, para. 58
[275] Tumpel and Kofler, p. 185

remuneration for a specific service. Given the absence of reciprocal performance and a clear legal relationship between the miner and the broader community, the provision of cruptocurrencies to miners does not appear to fall within the scope of VAT taxable transactions under the Article 2(1)(a) VAT Directive.[276]

B. Global perspectives

D. 1. The approach of various states

With the exception of Italy,[277] Cyprus[278] and some other countries,[279] in which no framework for the taxation of cryptocurrencies is foreseen, a large number of states have implemented a regulatory framework, which is not yet widely known, and is expected to create many questions.[280] In general, corporate taxation is applicable to large-scale cryptocurrency businesses, including mining companies. Capital gains tax is levied on investors engaging in speculative activities, with distinctions made between short-term and long-term gains based on various criteria.[281]

Some states opt for taxing the trading of digital currencies, regardless of whether they're exchanged for other cryptocurrencies, converted into regular money, or used indirectly to buy goods and services, not differentiating between their conversion and their use for payments.[282]

Also, there are some states which are, however, a minority, among which are Croatia, the Czech Republic, Denmark and France, that tax cryptocurrencies in conventional monetary units taking as the taxable basis the value they have at the time of the sale.[283]

In Germany, the regulation of digital currencies operates within the framework of the Banking Act (Kreditwesengesetz KWG). The Federal Office for Financial Supervision's guidelines, issued on 2nd March 2020, clarified that the storage, administration, and security of cryptographic values or private cryptographic keys, used for the transfer and storage of such values, fall under financial activities and services provided by banks, thus categorizing cryptocurrencies as financial instruments. Starting from 1st January 2020, businesses and financial intermediaries engaging or planning to engage in cryptocurrency trading must acquire a license from the Federal Office for Financial Supervision.

Despite the clear guidelines for financial institutions, there is no specific legislative definition for the accounting treatment of cryptocurrencies. Discussions among experts suggest that cryptocurrencies could be classified as current or long-term assets, with the possibility of creating new categories for digital means of payment on balance sheets in the future. Valuation of cryptocurrencies follows the German Commercial Code, allowing for assessment at acquisition or incurred cost.

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[276] Ibid., pp. 185-187
[277] KPMG Italia, Italy: Flat Tax for Crypto Investors, 26 July 2022, pp. 3-5, available at: https://assets.kpmg.com/content/dam/kpmg/it/pdf/2022/07/PDF_crypto_fla_tax.pdf (accessed 30/11/2023)
[278] https://www.kathimerini.com.cy/gr/oikonomiki/epixeiriseis/kryptonomisma-synallages-se-kryptonomismata-gia-idio-ofelos-forologiki-metaxeirisi-stin-kypro (accessed 31/11/2023)
[279] N. Schmidt et al., eds., *Taxation of Crypto Assets,*Den Haag: Kluwer Law International, 2021, pp. 7-12
[280] Ibid., pp.12-16
[281] Ibid., pp. 16-25
[282] Savvaidou and Athanasaki, p. 290
[283] Ibid.

Regarding taxation, the possession of cryptocurrencies does not attract income tax, but using them for transactions does. Profits from cryptocurrency trading are subject to taxation, with a tax exemption for gains up to EUR 600, and if the holding period exceeds one year, such gains are exempt from personal income tax. Cryptocurrency mining is considered akin to the production of other economic goods and is taxed accordingly. Additionally, in alignment with the CJEU's *Hedquist* case, mining activities are classified as non-taxable for VAT purposes, given the absence of a specifically identified recipient.[284]

The UK cryptoasset taxation system is an example of a jurisdiction opting to treat cryptocurrencies as property, as opposed to a type of currency.[285] In the UK, the crucial element that determines the taxation regime of cryptocurrencies is the amount of the transaction in real currency. More precisely, income from cryptocurrency mining is taxed at the completion of the transaction depending on whether the amount is such that it is considered business activity or capital income. If the amount of the valuation exceeds the limits set by the UK tax authority for it to be treated as business income, then such income is taxed as business income, and if it falls below the threshold, that income is taxed as capital income.[286]

Under United States regulations, an individual who engages in the mining of virtual currencies is required to report the virtual currencies' fair value as part of their total income upon receipt. If the mining activity is considered a regular commercial operation or a component of their business, any net profits from this "trade" are viewed as business income at the time they are received.[287]

Japan has embraced a progressive approach to cryptocurrency regulations, recognizing digital currencies as legal property under the Payment Services Act. To operate, crypto exchanges must register with the Financial Services Agency and adhere to anti-money laundering and counter-terrorist financing obligations. The Japanese Virtual Currency Exchange Association, established in 2020, serves as an industry watchdog with compulsory membership for all crypto exchanges.

Regarding taxation, profits from cryptocurrency trading are classified as "miscellaneous income" (*zatsu-shotoku*) by the National Tax Agency of Japan, with tax rates ranging from 5% to 45%, and an additional 10% payable to the local government as inhabitant tax. Taxpayers can offset these profits using losses from crypto asset trading. While no consumption tax applies to the sale or exchange of crypto assets, lending fees and interest earned from these assets are subject to consumption tax. Inheritance tax applies to crypto assets held by a deceased individual's estate.[288]

In the Greek legal order, no explicit rules have been adopted regarding the taxation of cryptocurrencies when they are mined, exchanged or sold.[289] The possibility of paying cryptocurrency taxes was examined by the Greek Independent Public Revenue Authority (AADE), as can be seen from its Business Plan for 2019: "*The challenges facing the tax authority in new, global, digital trading or service delivery platforms and payment systems at the level of*

[284] I. Kucharova, D. Pfeiferova, and E. Lőrinczova, *Specifics of Cryptocurrencies from an Accounting, Tax and Financial View in a Globalized Environment*, ed. T. Kliestik, SHS Web of Conferences 92 (2021): 03014, p. 6
[285] D. Boada, *Bridging the Map and the Territory: International Taxation Issues in Relation to Cryptocurrencies*, SSRN Electronic Journal, 2020, p. 19
[286] Savvaidou and Athanasaki, p. 290
[287] Ibid.
[288] Takeshi Nagase, Takato Fukui, and Keisuke Hatano, *Blockchain & Cryptocurrency Laws and Regulations,* GLI', GLI - Global Legal Insights - International legal business solutions (Global Legal Group), available at: https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/japan (accessed 30/10/2023)
[289] Savvaidou and Athanasaki, p. 291

competition and tax revenue are great. Finally, the use of cryptocurrencies (Bitcoin, Ethereum, Ripple, etc.) abroad has even been started by taxpayers to repay their tax obligations. This means that in the near future the tax authority will be asked to deal with the new trend of transactions with digital money that exists over the internet, but also to propose the institutionalization of the taxation of cryptocurrencies also as a portfolio investment".[290]

Lastly, China has banned trading of cryptocurrencies indefinitely in its domestic markets, and there may have been thoughts of banning the possession of cryptocurrencies altogether.[291] It is noteworthy that until 2017 China had the world's largest cryptocurrency market—with 80% of Bitcoin transactions conducted in yuan.[292]

D. 2. The OECD's Crypto Asset Reporting Framework

Moreover, alongside the ambiguity surrounding the taxation of cryptocurrencies, the international community has expressed apprehension about the influence of cryptoassets on worldwide tax transparency. Addressing this concern, the OECD has released a public consultation document outlining the implications and concurrently devising a novel global tax transparency framework, known as the Crypto Asset Reporting Framework (CARF),[293] facilitating the standardized automatic exchange of tax information for crypto asset transactions.[294]

In particular, the CARF provides for the automatic exchange of tax relevant-information on crypto-assets and was developed to address the rapid development and growth of the crypto-asset market and to ensure that recent gains in global tax transparency will not be gradually eroded.

The proposition from the OECD centers on the collection of supplementary data from both cryptocurrency holders and market intermediaries, facilitated through bilateral or multilateral agreements for the automatic exchange of information. This exchange would encompass details regarding the transactions, their beneficiaries, and the relevant tax administrations under the scope of existing Double Tax Conventions. The proposal emphasizes mandatory disclosure of the purchase and sale of cryptocurrencies, including their valuation in the contractual currency at the time of the transaction, which will be shared with competent tax authorities.

Moreover, the OECD suggests the creation of an annual report, broadening the scope to cover transactions between various cryptocurrencies. This report aims to include more specific information, such as the addresses of electronic wallets for cases where users store their cryptocurrencies.With reference to the Anti-Money Laundering and Know Your Customer Directives, the CARF proposes procedures for identifying the owners and beneficial owners of the

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[290] AADE, Directorate of Strategic Planning, '*Επιχειρησιακο Σχέδιο ΑΑΔΕ 2019*', March 2019, p. 23, available at: https://www.aade.gr/sites/default/files/2019-04/%CE%95%CE%A0%CE%99%CE%A7%CE%95%CE%99%CE%A1%CE%97%CE%A3%CE%99%CE%91%CE%9A%CE%9F%20%CE%A3%CE%A7%CE%95%CE%94%CE%99%CE%9F%20%CE%91%CE%91%CE%94%CE%95%202019.pdf (accessed 30/10/2023)

[291] B. Molloy, *Taxing the Blockchain: How Cryptocurrencies Thwart International Tax Policy Comments*, Oregon Review of International Law 20, no. 2 (2019 2018): 623–48, pp. 638-640

[292] R. Hoffmann, *China's Cryptocurrency and Blockchain Regulatory Environment*, Ecovis Focus China (blog), 15 May 2019, https://www.ecovis.com/focus-china/chinas-cryptocurrency/ (accessed 30/10/2023)

[293] OECD, *International Standards for Automatic Exchange of Information in Tax Matters: Crypto-Asset Reporting Framework and 2023 update to the Common Reporting Standard*, OECD Publishing, 2023, https://doi.org/10.1787/896d79d1-en

[294] Savvaidou and Athanasaki, p. 301

crypto assets. This data will be made available and exchangeable among tax authorities through the preparation of an annual report.[295]

D. 3. The DAC8 Directive

As mentioned in the previous chapter, on 8 December 2022, the European Commission proposed to set up a reporting framework which would require crypto-asset service providers to report transactions made by EU clients (called "DAC 8"). It was approved by the European Parliament on 13 September 2023 and EU member states now have until 31 December 2025 to implement the rules, which are set to officially take effect on 1 January 2026.

DAC8 rules aim to complement the Markets in Crypto-Assets (MiCA) Regulation[296] and anti-money laundering rules, extending the coverage to include cryptoasset transfers. While the MiCA Regulation facilitates access to the EU market for cryptoassets, it does not provide the foundation for tax authorities to gather and exchange necessary information for taxing cryptoasset income. DAC8 fills this gap and is aligned with the definitions in the MiCA Regulation. It is also consistent with the OECD CARF. Its scope however extends beyond the OECD CARF standards to include non-EU cryptoasset operators with users in the European Union.[297]

The DAC8 broadens the scope of automatic exchange of information to include data reported by cryptoasset service providers. It mandates the reporting of e-money and central bank digital currencies, covering domestic and cross-border transactions. The rules are global, necessitating reporting by cryptoasset service providers regardless of their size or location. The reporting process involves steps such as data collection, verification, and reporting to competent authorities, with a deadline of January 31 of the subsequent year. While MiCA-authorized providers report in their respective Member States, non-MiCA operators register in one Member State of their choice. The European Commission will establish a standard registration form. Reportable transactions include exchange transactions and transfers of reportable cryptoassets, with the information communicated through a central directory developed by the European Commission for cross-border tax rulings.[298]

In addition, the DAC8 expands the scope of article 8a of the DAC to encompass cross-border rulings related to high-net-worth individuals (HNWIs). HNWIs are defined as individuals with at least EUR 1 million in financial or investable assets, excluding their primary residence. The proposal mandates the communication of information to the competent authorities of all Member States and the European Commission when an advance cross-border ruling for an HNWI is issued, amended, or renewed after December 31, 2023.

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[295] Savvaidou and Athanasaki, 305

[296] The Markets in Crypto-Assets (MiCA) Regulation is a comprehensive regulatory framework proposed by the European Commission to govern the issuance and trading of crypto-assets in the European Union. It aims to establish a clear and transparent set of rules for the cryptocurrency market, ensuring investor protection and market integrity. MiCA sets out requirements for market participants, including issuers, trading platforms, and custodian wallet providers, to comply with certain regulatory standards and obtain authorization from relevant authorities. It also outlines provisions related to disclosure requirements, whitepapers, and ongoing supervision to promote a safer and more stable environment for crypto-asset activities within the EU.

[297] O. Popa and C. Valerio, *The (Most Recent) Proposal for an EU Directive to Amend the Rules on Administrative Cooperation in the Field of Taxation (DAC8).* IBFD, European Taxation 2023, 63, no. 2/3 (n.d.): 115–18., p.116

[298] Ibid., pp. 116-117

Moreover, DAC8 includes amendments to article 25a of the DAC, compelling Member States to establish penalty regulations for violations of domestic provisions related to articles 8(3a), 8aa, 8ab, 8ac, and 8ad of the DAC. The proposal sets minimum fines, ranging from EUR 20,000 to EUR 500,000, depending on the type of violation and the annual turnover of the entity involved. It stipulates that legal persons may be held accountable for non-compliance, especially if individuals in leading positions within the entity are found responsible.[299]

VI. Conclusion

The intricate realm of the taxation of the digital economy demands a comprehensive and analytical approach to navigate the complexities and contradictions inherent in the current international tax system. While global initiatives, such as the BEPS 2.0 plan and the EU's strategic legislative measures, have shown promising steps towards a standardized and equitable taxation framework, they are still in their infancy and face the challenging task of implementation on a global scale. The dynamic nature of the digital economy necessitates an adaptive and nuanced approach, one that balances the interests of market jurisdictions and the residence countries of digital businesses reside.

The evolving landscape of the digital economy has brought to light the intricate interplay between traditional tax theory and the new challenges posed by digital businesses. New theories of value creation, although attempting to capture the digital economy's tax base, have encountered roadblocks in achieving consensus. Questions regarding tax sovereignty, tax fairness, economic competitiveness, and the prevention of double taxation have surfaced, underscoring the need for a delicate equilibrium in the international tax architecture.

As the global community continues to grapple with these complex issues, it is imperative for policymakers to prioritize ongoing dialogue and collaboration to foster a sustainable and inclusive global economy. The effective implementation of digital taxation strategies must adhere to robust standards of scope, tax fairness, administrative feasibility, and sovereignty to ensure a transparent and equitable environment for all stakeholders involved. Only time will tell if the current models for international tax reform that are being implemented will effectively address the challenges posed by the digital economy and pave the way for a more stable and comprehensive global tax system.

[299] Ibid., pp. 117-118

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