

Taxation of Virtual/Crypto Assets/Currencies

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Abstract

The digital economy produces its elements. The most important elements are the coins/assets produced in digital or virtual environments, which cannot be fully conceptualised. In terms of taxation, the most important issues are the definition of these assets, the determination of a term that everyone generally agrees on, and the classification of these assets. This study aims to find the current crypto asset definition, classification, and taxation situation. For this purpose, Turkey and various country implementations and OECD recommendations were examined. A unity of terminology has yet to be reached on this issue, and the term virtual currency was used for these assets in the report published by the OECD in October 2020. As a result of this study, it is found that there is no still unity of implementation in terms of the taxation of these virtual assets, which are still considered illegal in some countries.

Keywords : Taxation, Crypto Asset/Currency, Classification, The Definition of Cryptos, Practices of Selected Countries.

JEL Classification Codes : H21, E42, F33, O19.

Öz

Dijital ekonomi kendi unsurlarını üretmektedir. Bu unsurlardan en önemlisi tam olarak kavramsallaştırılmayan dijital veya sanal ortamlarda üretilen paralar/varlıklardır. Vergilendirme açısından en önemli sorun, bu varlıkların tanımlanması, herkesin onayladığı bir terimin belirlenmesi ve sınıflandırılmasıdır. Bu çalışmanın amacı kripto varlıkların tanımlanması, sınıflandırılması ve vergilendirilmesine yönelik gelinen mevcut durumu tespit etmektir. Bu doğrultusunda Türkiye ve çeşitli ülke uygulamaları ve OECD önerileri incelenmiştir. Bu konuda henüz bir terim birliğine ulaşılamamış olup, OECD'nin Ekim 2020'de yayınladığı raporda bu varlıklar için sanal para terimi kullanılmıştır. Bu çalışmanın sonucunda bazı ülkelerde halen yasadışı olarak kabul edilen sanal varlıkların vergilendirilmesi konusunda henüz bir uygulama birliği olmadığı tespit edilmiştir.

Anahtar Sözcükler : Vergilendirme, Kripto Varlık/Para, Sınıflandırma, Kriptoların Tanımı, Seçili Ülke Uygulamaları.

1. Introduction

The digital tools that became a part of our lives and the goods and services they offer significantly impact societies' economic, social, cultural, and intellectual spheres. This process, which is also called the phenomenon of digitalisation or digital economy, allows businesses of all kinds to easily open to world markets that they could not even anticipate before, not to need a physical workplace, to minimise their costs, to use new business models, to meet new methods except for the production, marketing, and sales they use in the classical method, to gain more profit and, most importantly, to gain competitive advantages.

This situation, which emerged regarding businesses, did not result in more tax revenues for the countries that receive tax on the earnings or the added value obtained as a result of the activities of the businesses. When the digital economy players, who utilise the gaps in the countries' tax laws, started to operate in many countries at the same time and pay minimum or zero tax, this attracted the reaction and attention of the country administrations. In this context, some projects such as the Base Erosion and Profit Shifting (BEPS) project created under the leadership of OECD have been tried to be implemented.

One of the most important changes experienced with digitalisation is, doubtless, the emergence of assets, which can be used as a means of change, savings, investment and that are tried to be called various names such as electronic money, digital money, virtual money, digital token, digital value. The most prominent of these assets is Bitcoin. Its most important feature is decentralised and can be transferred directly between individuals over the internet without intermediaries in peer-to-peer banking (Alpago, 2018). Suppose it is necessary to make a definition within this scope. In that case, it is a decentralised digital entity where transactions take place directly between users with no mediator and are confirmed by cryptography and saved in an anonymous ledger named blockchain (Majumdar, 2019: 263-4). However, there is no consensus on the generality of the world related to the definition and classification of these assets in the last years. Even in some countries, these assets are banned. In countries where they are not prohibited, it is seen that it is regarded as money and a digital asset, securities, or real estate due to the problems arising from the definition. Regardless of the name, the taxation of these digital assets varies depending on the definition, in other words, the classification.

In this study, after a brief historical development of digital assets, which is an important element of the digital economy, an evaluation will be made within the scope of the recent discussions on the definition of digital assets, and in the following titles, how the taxation of digital assets is carried out and implemented in selected countries in the current system will be revealed.

2. A Short Background of Digital Economy and Crypto(S)

The digital economy is a product of information and communication technology transformation. It is an economy that is cheaper, more powerful, has broad standards,

improves business processes, is open to innovation, and can adapt quickly to developments (OECD 2015: 13). Developing computing technologies cover all aspects of modern life. Besides contributing to entertainment, health, education, banking, and urbanisation, they also impact the easier generation of new ideas. People establish relationships with the government and society (BCS, 2016: 6). The development in information technologies has led to innovative and facilitating steps in the banking sector. The banking system has turned into a faster, more transparent, and more secure structure within this scope.

With the help of information technologies, products can easily reach larger markets, product diversification and adjustment of their features are faster and easier compared to earlier periods, and customer-oriented product presentation has become quicker and more successful (OECD, 2015: 41). The global value of e-commerce, an important element of the digital economy, was estimated to be around \$ 29 trillion in 2017 by UNCTAD (UNCTAD, 2019: 15). This data alone is sufficient to show the economic size of the digital economy in the coming years.

The virtual/digital world, which produces its ecosystem, has succeeded in producing its currencies, in other words, means of change and putting them into daily life. While these coins/assets can be released to the market by the governments, they are mostly anonymous and can be used in digital shopping units. Cryptocurrencies can be used to purchase assets and services in online games and purchase real goods and services, just as real money. The most significant property of such currencies is that they have encryption and require peer-to-peer authentication. In other words, these currencies are encrypted (OECD, 2015: 44).

The "digital exchange tool" that comes with crypto technology, the most important product of information technologies, is assets referred to as crypto money or digital money. The preparation of the emergence of cryptography and privacy-protecting technologies, digital currencies, was carried out by cryptographer David Lee Chaum. In his doctorate thesis titled "Computer Systems Established, Maintained, and Trusted by Mutually Suspicious Groups", as presented in 1982, Chaum revealed the first blockchain protocol and algorithm (Chaum, 1982: 3). He later developed a cryptographic system called "untraceable Electronic Cash (eCash)", with the article he wrote in 1990 (Chaum et al., 1990: 319-27). He played a significant role in the emergence of digital assets and their features. In this context, he developed DigiCash, another system that would make economic transactions safer using cryptography. DigiCash was one of the first public and private key cryptography implementations used by digital currencies today. The "Blind Signature" technology, which emerged within the scope of the studies of Chaum, both increased security for DigiCash users and made electronic payments untraceable by third parties (Chaum, 1983: 200).

In 1991, the first study of creating a cryptographically secure chain of blocks by placing time-stamps on digital data was done by Stuart Haber and Scott Stornetta (Haber & Stornetta, 1991: 110). Haber and Stornetta made the first studies of secure cryptographic blocks with this study.

In 1998, Nick Szabo developed a decentralised digital currency called Bit Gold, using the Blockchain system that forms the basis of crypto money today. Stefan Konst (2000: 1-81) published a general theory for cryptographically secure chains and suggested implementing them.

Satoshi Nakamoto (2008: 1-9) introduced blockchain technology with his article titled "Bitcoin: A Peer-to-peer Electronic Cash System". Nakamoto implemented the first blockchain by proposing a new solution to the issue of "The Byzantine Generals", known as the problem of how to share information in an insecure and potentially fraudulent distributed processor network, without using a central authority, with the concept of "proof of work", which led to the emergence of bitcoins within the scope of crypto assets (Dursun, 2021: 1).

Blockchain is a special kind of decentralised digital ledger concept. This occurs with a technology that guarantees the inalienability of these records by ensuring that the records are confirmed and stored in peer-to-peer (P2P) computers in the form of duplicate copies and incoordination. Thus, it fulfils its vision of operating in a safe, unchangeable, transparent, democratic, and auditable manner (BTV, 2019: 14). All transactions made since Bitcoin's first appearance in 2009 are stored digitally in the blockchain (Çarkacıoğlu, 2016: 42).

Therefore, the virtual currency system is not subject to any centre or country and has a legal system and legal regulation. The market value of virtual currencies is defined according to the supply and demand of the currency. These currencies are open source, international and anonymous. Users only use virtual currency (such as Bitcoin BTC) wallet identification numbers when making transactions. Besides, users do not have any personal data in the system. This feature makes digital coins anonymous. Thus, third parties or government authority (Esener, 2017: 1). Each digital coin generated has a correspondence in international currencies. When Bitcoin was first produced in 2009, its value was \$ 0.1, while its value in February 2021 reached \$ 48.780 (Coindesk, 2021: 1). Various vendors, producers, consumers, and even governments have begun to accept these assets as tools for both investment and shopping (Crypyo Para, 2021: 1).

Cryptocurrencies, one of the best-accepted implementation solutions of blockchain technology, became the main focal point of regulatory activities as they first reported their names with Bitcoin in chronological terms. But at the same time, it is considered that regulating cryptocurrencies by letting them have a legal status will restrain the cryptocurrencies from using for illicit activities such as drug trafficking, tax evasion, or money laundering, thereby improving their value in the long term (Houben & Snyers, 2020: 13).

3. Classification of Cryptocurrencies

3.1. From Crypto Asset to Cryptocurrency: Conceptual Distinction and Classification

The definition of the crypto money (cryptocurrencies) concept and the concept of crypto asset, considering its functions, is currently based on international organisations and countries. In fact, from the report titled "Taxing Virtual Currencies An Overview of Tax Treatments and Emerging Tax Policy Issues" published by the OECD in October 2020 (OECD, 2020: 3), it is seen that the OECD preferred to stay one step behind and monitor what countries are doing in this regard and the OECD report and its content on the classification issue will set the stage for new discussions. The related report will be a source for future academic and practical studies as was in the previous reports of the OECD. Of course, addressing the subject today will be appropriate and beneficial in terms of the direction it will follow in the future, depending on the advancements in technology and market conditions. We can define crypto assets as an asset developed for serving financial tools as an alternative in a general expression.

At the beginning of 2020, while there were more than 5100 crypto assets with an entire market capitalisation of over \$ 250 billion, this number is increasing day by day, and there are also crypto markets for crypto assets, whether legal or illegal (Houben & Snyers, 2020: 25). In practice, cryptocurrency is often used instead of the concept of crypto asset; this is the effort to create electronic or digital cash through cryptography technology as an option to the current payment system. However, at the point reached today, the concept of crypto assets has comprehensive content that includes the concept of cryptocurrency. It will be useful to discuss the issue by segregating the word "cryptocurrency" into pieces to understand the matter better. In the most general terms in the digital environment, "crypto", the first part of the word "cryptocurrency", means "hidden or secret", reflecting the security technology used to record who owns what and make payments between users. The second part, "currency", is the broadest sense of "some kind of electronic cash". However, cryptocurrencies are not the "cash" currencies we currently use. These currencies are electronically available and are based on a peer-to-peer system. No central bank or government agency manages the cryptocurrency system or steps in if something goes wrong (Bank of England, 2021: 1; Houben & Snyers, 2020: 19).

Today, although the concept of "crypto-assets" is used to refer to a wide variety of assets, there is no generally accepted definition of what constitutes a crypto asset. Therefore, the first question to be answered on our subject should be "what is an asset"? Statistically, we can call assets to generate economic benefit by being retained. OECD (2018) argued that for digital/crypto assets, this ownership requirement, namely the retention condition (such as owning crypto keys), is generally met (Castrén et al., 2020: 6). The second question that is beneficial to answer should be, "Are crypto assets economic assets?" Crypto assets are considered economic assets because those who own them can earn gains/losses, and with these assets, they also provide economic benefits to their owners in other ways. Moreover,

these assets have monetary values, and their prices are determined by the markets they trade (IMF, 2019: 8).

According to national account guidelines, an asset is a "financial asset" if it grants its owner the right to receive a payment at a previously agreed amount and generates a corresponding demand for another asset. From this point of view, when considering whether crypto assets are financial or not, the term "crypto-asset" is a sub-category of "digital asset" and covers both non-issued assets (non-financial assets such as Bitcoin) and issued assets (financial assets considered under the term "stablecoin") (Castrén et al., 2020: 3).

The studies on the definition of the crypto asset are based on a clear understanding of the crypto asset and the terminology covering all features. The transfer of the determined terminology into legal systems is important in terms of unity in policy and implementation. In this context, different crypto asset definitions have been made for monitoring and auditing studies conducted by regulatory authorities and standards-setting institutions or for other purposes (Houben & Snyers, 2020: 13):

- The European Central Bank (ECB) Crypto Assets Task Force has very narrowly defined the concept of crypto assets as digitally recorded assets that do not represent a financial claim or financial liability for any natural or legal person.
- The International Organization of Securities Commission (IOSCO) defined the crypto-asset concept primarily as a type of special asset that is based on cryptography and DLT or similar technology as a part of a perceived or inherent value, in other words, as an asset that can represent an asset such as currency, commodity or security or to be a derivative of a commodity or security.
- The Financial Stability Board (FSB) has introduced a similar definition and defined the concept as a type of private entity primarily based on cryptography and distributed ledger or similar technology as part of its perceived or inherent value.
- Following the definition of the FSB, the European Securities and Markets Authority (ESMA) defines the crypto asset as a type of private asset primarily based on cryptography and DLT or similar technology as part of its perceived or inherent value. ESMA uses this terminology to refer to both virtual currencies and digital tokens. According to ESMA, a crypto asset also means an asset not issued by a central bank (ESMA, 2019: 42).

In addition, in a report published by the European Parliament, crypto-assets were defined as a special digital asset, and it was stated that it has the following characteristics (Houben & Snyers, 2020: 13-4):

- a) It is recorded in a type of digital distributed ledger secured by cryptography.
- b) They are not issued or guaranteed by the central bank or public authority.

c) They can be used as a bartering tool and/or for investment purposes and/or to access a good or service.

The descriptive studies conducted failed to come up with a term that everyone agreed on. However, determining which elements/features a crypto asset will carry is important in approaching the next step.

3.2. Taxonomy of Crypto-Assets

It is essential to separate digital assets/currencies into those issued by a central bank and those issued by the private sector based on sovereignty. Central Bank Digital Currencies (CBDCs) are digital assets or digitalised instruments issued by a central bank for payment instruments based on sovereign power. On the other hand, digital assets/currencies created by the private sector or individuals consist of Cryptocurrencies and Tokens. It is possible to divide them into subclasses as Traditional "non-backed" cryptocurrencies, Stablecoins, Investment Tokens, and Utility Tokens (EFRAG, 2020: 6). These digital assets have high price volatility since they do not depend on any element (gold, silver, or economic data) and do not represent an obligation. Thus, these currencies are called "non-backed" currencies. The highly volatile nature of traditional "non-backed" cryptocurrencies makes it impossible for classical currencies to fulfill their role (i.e., function as a medium of exchange, value store, and account unit).

We can say that digital stablecoins have started to be introduced to overcome the disadvantages of "non-backed" coins in the traditional sense. In a simpler sense, a stablecoin is a subcategory of cryptocurrencies fixed to the value of a fixed asset or the price of a basket of assets. Like traditional "non-backed" cryptocurrencies, stablecoins aim to fulfill currencies' roles. Examples of stablecoins currently in circulation include Tether (USDT), Multicollateral DAI (DAI), and Gemini Dollar (GUSD) (Houben & Snyers, 2020: 20).

However, they have certain functions that stablecoins do not have. These transactions owned by tokens are in the form of providing access to a certain product or service or achieving a certain purpose with the dividend-like rights of their owners. While the cryptocurrency is divided into categories within, there are multiple token categories. Tokens can also be subclassified into "investment tokens" and "utility tokens" based on various attributes. Investment tokens, also known as security tokens or asset tokens, provide their holders with rights and/or powers similar to dividends.

On the other hand, utility tokens provide their owner access to a specified implementation, product, or service, generally ensured via a newly developed infrastructure. They only give access to a product or service developed by the token issuer and are not considered a payment instrument for products or services. Thus, utility tokens are different from cryptocurrencies (Houben & Snyers, 2020: 21).

3.3. Is Virtual Money the Same as Digital Money? Are Virtual Currencies A Digital Currency?

Because of legal conditions, there are two basic kinds of virtual currency: "centralised and decentralised money". In this sense, the centralised or decentralised concept is about generating the currency. Within this scope, a centralised currency has a centralised manager or storage. The centralised management of a virtual currency is typically the person or organisation that issues that currency. The role is similar to a central bank in a regulated currency system. XRP is one of the examples of a centralised virtual currency.

On the other hand, decentralised currencies have no third-party centralised manager or storage. Instead, it works as an authenticator of decentralised virtual currency transactions in a distributed system. Many decentralised virtual currencies are based on blockchain networks such as Ethereum, Bitcoin, and Litecoin. A blockchain network connects cryptography with a list of records known as blocks. When a transaction is requested, the request is broadcast on the web, including on many computers (nodes). After the network confirms the transaction, a stable and unchangeable block containing the transaction information is added to the current blockchain. The process is concluded and recorded accordingly (CFI, 2021: 1; Sia-Partners, 2020: 1).

Again, digital currencies are related to the M2 and M3 categories of the financial system, where M1 refers to physical banknotes and coins in circulation. In this case, more than 95% of currencies worldwide are digital. The virtual currency was initially meant only for currencies that did not exist in the real world and was only exchanged online (usually in gaming systems). Later, virtual currencies began to expand in the physical world, blurring the lines between virtual and digital currencies (Sia-Partners, 2020: 1). Digital currency has become a broad concept that refers to all monetary assets in digital form. A digital currency can be regulated or unregulated. In this concept, a regulated digital currency can be issued by a country's central bank and converted into an independent currency. Regulated digital currencies are subject to the country's monetary policy to which it is subject (CFI, 2021: 1).

It is produced and controlled by a private issuer rather than a central bank. Because of that, it is not subject to the foreign exchange policy of any person, institution, or country. As mentioned, virtual currencies can be centralised or decentralised. Some virtual currencies include cryptography, while others do not. Cryptocurrency is a virtual currency that applies cryptography technology to secure and verify currency transactions (CFI, 2021: 1; OECD, 2020: 11). In light of these assessments, it can be said that the concept of digital currency includes virtual currency terms.

4. Taxation of Crypto Assets

The taxation of cryptocurrency depends on the nature of these assets and how they are acquired or used. Cryptocurrency, in general in countries that issue regulations and make explanations thereabout, is used as an investment property, financial instrument, intangible

asset or property, financial asset, commodity, etc. For example, they are accepted and considered as real estate for investment purposes in Norway, Denmark, and Finland, as fixed capital in Australia, as financial tools in Germany, as non-tangible assets in Luxemburg, Switzerland, as non-material property in Singapore, as investment capital in Sweden, as an asset in New Zealand, as a financial asset in Venezuela and as security in Canada (Library of Congress, 2021: 123-4).

The definition of crypto assets is significant for understanding how they fit within current tax regimes. They are considered crypto assets in most jurisdictions, a form of property for tax purposes. Countries are choosing different methods to categorise these currencies within the accepted definition: most of the countries analysed refer to them as intangible assets. Some consider them commodities or financial instruments. Some countries have a dissimilar method and consider these currencies as "a digital representation of value" (e.g., Poland) or as foreign fiat currencies (e.g., Italy) (OECD, 2020: 15).

For example, in South Africa, cryptocurrencies are not considered tax-based currencies, and any income obtained with cryptocurrencies is also subject to tax. The South African Revenue Service (SARS) recognises cryptocurrencies such as Bitcoin as "intangible assets" as opposed to currency or property. In this context, cryptocurrencies are classified as intangible assets, meaning that, in theory, SARS considers the divestment of cryptocurrency to be a capital gains tax event (McClure, 2020: 1).

On the other hand, many countries recommend different taxation procedures depending on whether the cryptocurrency mining activities carried out by individuals are small-scale (generally considered as a hobby), large-scale, or commercial scale. For example, mining is taxed with being accepted as income from a hobby in Finland and Denmark unless it is done on a commercial scale. Again, Norway taxes the revenue from mining and cryptocurrencies and the profits from their sales when performed on a commercial scale. In contrast, mining is generally a non-taxable hobby (Library of Congress, 2021: 88).

Again, many countries have explicitly put in their legislation that reward tokens produced by individuals on a small scale or from mining as a hobby cannot be taxed until traded or in any way. For example, in Australia and Canada, where a person is mining cryptocurrency as a hobby, tokens are not taxed until traded. Still, when these tokens are later traded, they are taxed under "capital gain tax" (CIAT, 2020: 1).

In Singapore, on the other hand, these activities of an individual engaged in mining activities are considered hobby activities. Unless the person makes a habitual and systematic effort to profit from the activities, the earnings from the sale of the individual's tokens are not taxed. In some countries, the individual may be required to pay income tax on the mining rewards even if the mining is not undertaken for a business or profit-making. For example, in New Zealand, profits from the subsequent sale or exchange of mining rewards are taxed. In the UK, if the mining activity is not conducted within the scope of commercial activity,

the value of a crypto asset obtained due to mining is taxed as "miscellaneous income" at the time of purchase. Again, in the UK, in the sale (sale) of crypto assets, "capital gains tax" is applied to sellers (Library of Congress, 2021: 118-20; Koinly, 2020: 1). In the United States of America, cryptocurrency is accepted as a "capital asset", and any crypto sale is subject to "capital gains tax" (Zelaya, 2020: 1). Few countries accept virtual currencies as a type of currency (foreign or local) for tax purposes. This varies but is often related to decentralisation, lack of support, price volatility, and limited use as a medium of exchange. In most countries that publish a declaration/guide on the matter, cryptocurrencies are described as property for taxation purposes for income tax purposes.

Australia, France, Chile, Czech Republic, Luxembourg, Nigeria, Spain, Sweden, Switzerland, and the United Kingdom define virtual currencies for tax purposes as intangible assets other than goodwill. Argentina, Brazil, Croatia, Denmark, Israel, Japan, Slovak Republic, and South Africa define virtual currencies as financial instruments or assets for tax purposes. Austria, Canada, China, and Indonesia define virtual currencies as a commodity or virtual commodities for tax purposes. Belgium, Cote d'Ivoire, Italy, and Poland define virtual currencies for tax purposes as currency. Japan defines it as legal payment. The United States defines virtual currencies for tax purposes as capital assets (OECD, 2020: 23).

Few countries consider virtual currencies similar to 'currency' in taxation, such as Belgium, Ivory Coast, Italy, and Poland. Cryptocurrency sales are not taxed in Portugal. Essentially, this is because Portugal sees cryptocurrencies as a means of payment, i.e., another currency rather than an asset (Portugalhomes, 2020: 1). France, which also describes virtual currencies as "financial assets", taxes the earnings that arise when these assets are converted into "traditional" currency but exempts transactions of crypto to crypto from tax (Mitchell, 2019:1). There is no unity or cohesion among countries (Yereli & Orkunoglu-Sahin, 2018: 227).

4.1. Virtual Currencies in Terms of Income Tax Application

In terms of income tax, most countries that made regulations consider virtual currencies as an asset; it is most commonly seen that they are evaluated as intangible assets other than goodwill, financial asset, or commodity. For this reason, assets are treated as "capital gain generating assets" in most countries and, in rare cases, as "business or miscellaneous income".

Most countries have expressed the opinion that, in terms of income tax, the activity of the disposal of virtual currencies generating earnings should be taxed as a tax-generating event. Again, in almost all countries, the payment of goods, services, or wages through barter transactions is considered a taxable event. It is stated that there is no difference in taxation between performing the transaction as barter and in return for cash (OECD, 2020: 32).

For example, in July 2020, a bill on the taxation of virtual currencies was published in Korea, and it was announced that virtual currencies would be taxed as "other income". Therefore, within the scope of the proposed taxation procedure, which will be enforced as of October 2021, the capital gains obtained from virtual assets will be subject to an annual income tax of 20%, except 2.5 million KRW per year (Zelaya, 2020: 1).

Again, the Australian Tax Office defines virtual currencies as "Bitcoin or other crypto or digital currencies with similar properties to Bitcoin" and subjects the earnings obtained in the event of trade of these currencies to "capital gain tax" (Koinly, 2020: 1).

In many countries, taxation on transactions in virtual currencies also varies depending on the taxpayer's situation. Occasional transactions or transactions made in personal earning capacity are commonly taxed as "capital gains tax" (OECD, 2020: 29).

Commercial transactions with cryptocurrencies used by traders in Croatia are considered financial transactions. The income from the sale of cryptocurrencies is subject to personal income tax based on "capital gain" (IRGLOBAL, 2018: 1).

4.2. Wealth Taxes and Virtual Currencies

As virtual currencies are typically considered property for tax purposes, with the possible exception of VAT, they are also likely to be subject to property taxation in countries that levy inheritance, gift, wealth, or transfer taxes. However, the guidance available rarely provides information on whether and how these taxes apply to virtual currencies. For example, the UK considers virtual currencies assets/property taxed under inheritance tax law (Castrén et al., 2020: 6-8). In contrast, although no regulation has yet been made in Korea, the Government announced at the end of 2017 that virtual currencies and other virtual assets would be deemed taxable in other property classes under the inheritance tax rules. Also, in Finland, virtual currencies acquired through inheritance are taxed on acquisition costs. Subsequent earnings on disposal may also be taxed under capital gains taxes.

Finally, Belgium, Luxembourg, Norway, Spain, and Switzerland accept virtual currencies as "assets" taxed under wealth tax. For example, in Luxembourg, an annual wealth tax of 0.5% is levied on the market value of crypto assets. In Switzerland, virtual currencies are taxable capital under movable capital assets and are subject to cantonal wealth taxes (OECD, 2020: 40).

4.3. Virtual Currencies in Terms of The Value Added Tax (VAT)

It can be said that the VAT implementation policies of the countries on virtual currencies are more coherent and more transparent than their income tax application policies. First of all, in many countries, the exchange of virtual currencies is not subject to VAT. In addition, using virtual currencies to buy goods or services is not subject to VAT.

From the perspective of EU countries, mining activities are generally considered outside the scope of VAT, as in Germany, Ireland, Slovenia, and Sweden. However, in France, income from mining activities is taxed as a supply of services (Zmudzinski, 2019: 1).

Similarly, there are some differences in the approach adopted by the EU Member States on taxation of certain services regarding digital assets. For example, Germany considers the provision of wallet services that means as defined as a software program or physical device that allows cryptocurrency users to store crypto, send, and receive crypto transactions (Bankrate, 2021), and clearing services for crypto assets offered to third parties as a taxable event within the scope of VAT, other countries bring tax exemptions to wallet services and/or clearing services for a fee. In contrast, Slovenia treats online foreign exchange services as a taxable event at the standard VAT rate while excluding the provision of wallet services and the exchange of virtual currencies from the scope of VAT. Likewise, in Italy, foreign exchange services are exempted from VAT in line with the treatment applied to other foreign currencies (OECD, 2020: 23; Library of Congress, 2021: 62).

Suppose we were to provide examples of VAT applications on virtual currencies among non-EU European countries in the UK. In that case, mining is excluded from the scope of VAT since there is no connection between the services ensured and the price, and there is no customer case in mining services. At the same time, exchanges in virtual currencies are without a scope, and VAT can be paid for the supply of goods or services for which virtual currencies are exchanged (OECD, 2020: 14). Also, in Norway, virtual currencies are used as a means of payment. The exchange of virtual currencies is exempt from VAT, provided that the virtual currency is used as an alternative payment method. Mining rewards are exempt from VAT, but those who sell data processing power to others to allow mining are subject to VAT.

Likewise, in Switzerland, virtual currency proceedings are not covered by VAT if they are exchanged for other virtual currencies or fiat currency. Similarly, exchanges related to other goods and services are liable to VAT only for the supply of goods or services. However, barter transaction is outside the scope of VAT. Outside of Europe, almost all countries tend to comply with a similar strategy, excluding exchanges in virtual currencies from VAT and treating the buying of goods and services with virtual currencies as a taxable sale rather than a barter activity. In Australia, virtual currencies were previously seen as a taxable exchange event. However, in July 2017, the Law was amended to consider the purchase of goods and services with virtual currencies as an exchange activity and to accept virtual currencies and/or fiat currency exchanges as financial services exempt from Goods and Services Tax (GST). Again, only the mediation fee from sales is liable to VAT in Columbia. Virtual currencies are considered individual assets, and for this reason, they are not liable to VAT. In Israel, individual investors in virtual currencies are not regarded as taxpayers of VAT, but anybody included in mining activities is described as a seller and liable to VAT. Virtual currencies are tax-oriented financial businesses excluded from VAT (OECD, 2020: 38).

In Japan, an exciting example, before July 2017, sales of virtual currencies were liable to VAT if the transferee was located in Japan. However, since July 2017, a regulation has been issued for not charging VAT on stock exchanges, provided that the relevant token meets the crypto asset definition under the relevant law. Essentially, virtual currencies in Japan are treated the same way as government currencies in terms of VAT (OECD, 2020: 37).

Again, in Singapore, as of January 1, 2020, virtual currencies are considered VAT-exempt transactions when they are exchanged with other virtual currencies or legal currencies and are exempt from taxes if used as a means of payment for goods and services. In addition to the services provided by intermediaries, a mining service offered to identifiable parties for evaluation is also subject to tax. In South Africa, according to the 2018 guidance document of the Reserve Bank of South Africa, all transactions involving the issuance, acquisition, collection, purchase, sale, or transfer of ownership of crypto assets are financial services exempt from VAT. On the contrary, New Zealand is one of the few countries to adopt a different approach to VAT processing over virtual currencies; the GST transaction of crypto assets traded is determined case-by-case and may be fully taxable, exempt, or zero-rate depending on the circumstances. Cryptocurrency exchanges are exempt from GST, but this will apply to all transactions or only New Zealand resident buyers. Again, related services that are not the provision of crypto assets on their own (such as mining, clearing services, or general business or computing services) continue to be subject to current GST rules or are taxed at the standard rate subject to GST (OECD, 2020: 38).

5. Taxation and Regulation of Crypto Assets in Turkey

Turkey is one of the countries that use cryptocurrencies, with a daily transaction volume exceeding \$ 1 billion in 2021. There is only legislation regarding the identification and classification of crypto assets. In April 2020, Central Bank in Turkey declared regulation to prohibit the use of cryptocurrencies as a tool for payments for goods and services. According to the Banking Regulation and Supervision Agency (BDDK) statement, cryptocurrencies are not evaluated as virtual money within the Law on Payment and Securities Reconciliation Systems, Payment Services, and Electronic Money Institutions (Hg.org, 2022: 1).

As explained above, cryptocurrency is described as an asset, but it is forbidden to use as a tool for payment methods. This shows that Turkey participates in various countries that partly prohibit cryptocurrency. At the same time, crypto firms in Turkey now have to comply with Anti Money Laundering and Combating the Financing of Terrorism Standards (AML/CFT) obligations by Law № 5549 on the Prevention of Laundering Proceeds of Crime and the International Financial Action Task Force (FATF) Recommendations. Crypto companies in Turkey were not subject to AML/CFT regulations. But after regulations, AML obligations have been expanded for Turkish crypto firms anymore. In the amended Regulation on Measures Regarding Prevention of Laundering Proceeds of Crime and Financing of Terrorism, crypto companies and businesses have been forced to enact the same

AML/CFT policies as other financial institutions in Turkey. As AML regulator in Turkey, Financial Crimes Investigation Board (MASAK) supervises Turkish crypto firms related to crypto trading and crypto exchange platforms, crypto wallets, etc. According to the regulations, goods and services would no longer be paid for with cryptocurrency. According to the rules, it is impossible to pay with cryptocurrency for goods and services. However, cryptocurrency trading is allowed so that everyone can buy and sell cryptocurrencies as investment tools. At the same time, it became unlawful to buy, sell, or transfer cryptocurrencies via payment/e-money services on crypto platforms such as PayU, iPara, and PaymentWall (Sumsb, 2022: 1).

Since cryptocurrencies have an important potential revenue for Turkey, other countries' studies on the taxation of cryptocurrencies continue. Debates on the qualification and taxation of cryptocurrencies continue in Turkey as in many countries. The most important issue is that the earnings subject should be determined to tax the income from cryptocurrency (Ersoy & Kartın, 2021: 1).

6. Conclusion

Rapid developments in information technology affect all societies politically, socially, culturally, and economically. The digital economy develops its ecosystem globally, which was created by information technologies at the beginning of this digital age and is very open to development and evolution. Digital / virtual assets/currencies, one of the most important elements created by the digital economy and which have not yet been fully defined, cause significant changes in both economies and legal systems and taking steps in these matters. Numerous studies and reports are prepared nationally and internationally to comprehend the digital economy, identify possible damages to societies, legal systems, environment, health, and social structure, and take measures.

The theoretical foundations of digital/virtual assets/currencies, which constitute the subject of the study, began in 1982 in general. It was launched in 2009 to produce a virtual asset called Bitcoin. Since 2009, many crypto assets/currencies under different names have been produced. The fact that these assets and the trade with these assets reach huge volumes worldwide and retain significant amounts of gains are important and some difficulties in the efforts of countries to acquire taxes from such incomes. One of these difficulties is the lack of unity of terms and definitions. Some countries define these assets as virtual/digital / cryptocurrencies, while others define these assets as commodities, and others as real estate, financial assets, and tokens. These specified assets are not of a single type but are produced for different features, purposes, and functions. Beyond this uncertainty in definition, these assets are prohibited in some countries such as Algeria, Egypt, and Bolivia. In such uncertainty, the OECD monitors the process and, from time to time, prepares reports and makes recommendations to enable the resolution of the digital ecosystem in a way that does not hinder the development thereof. One of the most recent studies in this context is "Taxing Virtual Currencies: An Overview of Tax Treatments and Emerging Tax Policy Issues", published on 12 October 2020. In this study, OECD provided guiding information on the

identification and classification of crypto assets and preferred the concept of virtual currency as the top concept for crypto / digital assets.

There is no consensus when taxing digital currencies on a country basis. For example, in terms of income tax, if people in Germany hold cryptocurrencies for more than a year, they are not subject to any capital gains tax from these assets. Similarly, Malta does not tax on long-term retainment of cryptocurrencies, just like Germany. Since there is no capital gains tax in Singapore and Malaysia, cryptocurrency holders are not subject to tax. As another example, there is no income tax application for any cryptocurrency retained, sold, or purchased by individuals in Switzerland for their private assets. However, in the USA, crypto assets are accepted as "property" rather than "currency". When the earnings obtained from transactions with crypto assets reach a certain amount, they are subjected to tax depending on the regular taxation regime of the properties. In the UK, crypto assets are recognised as foreign currency, and the tax rules applicable to currency gains and losses apply to crypto-asset transactions.

Although it is possible to see different applications regarding the VAT application, we can say that there is consistency compared to the income tax application. After the European Court of Justice (ECJ) decision that cryptocurrencies are currencies, not property, it was stated that the purchase and sale of cryptocurrencies are not subject to VAT. No VAT is applied to trading cryptocurrencies in EU member states. Regarding VAT application, it can be stated that countries implement policies closer to each other in terms of virtual currencies compared to income tax.

When we look at the matter in terms of wealth taxes, the number of countries that subject crypto assets to wealth tax is relatively low, as a few countries impose wealth taxes.

In Turkey, crypto assets/currency is legally described as an asset but is prohibited as a payment method. In this aspect, Turkey joined a list of countries that partially prohibits cryptocurrency. Since cryptocurrencies have a potential tax revenue for Turkey Tax Office, studies on the taxation of cryptocurrencies have carried on. In a taxation context, cryptocurrencies may be determined as "security", "commodity", or "money" in the Turkish Tax System.

If cryptocurrencies are determined as securities, they must be treated as "financial assets". In this case, buying and selling cryptocurrencies are subject to income tax. When cryptocurrencies are described as securities, they are not subject to VAT, but if the value increase exceeds TRY 25,000 for 2022, the excess will be subject to income tax. If cryptocurrencies are considered a commodity, they can be taxed in two methods. If there is a continuity factor in the activity, the gain will be commercial gain. If there is no continuity element in action, this gain is accepted as an incidental income. If it is accepted as an accidental income, TRY 58,000 of the revenue will be considered an exception for 2022, and if it exceeds this amount, the excess will be subject to income tax. At the same time, if cryptocurrencies are considered a commodity, VAT will happen in terms of the Value Added

Tax Law, and cryptocurrencies will be subject to VAT. If the cryptocurrencies are described as a currency, they will not be subject to taxation. Lawmakers in Turkey will decide how cryptocurrencies will be accepted and taxed at the parliament.

Finally, legal systems, especially tax systems, need to define virtual/crypto assets/currency and reach a term everyone agrees with. Even though countries have different practices based on the sovereign rights regarding the taxation of the gains from the use of virtual assets for production, consumption, and savings purposes, the main reason for these different practices is not sovereignty, but the fact that the world of virtual assets is not fully understood and controlled.

References

- Alpago, H. (2018), "Bitcoin'den Selfcoin'e Kripto Para", *Journal of International Scientific Researches*, 3(2), 411-428.
- Bank of England (2021), *What Are Cryptoassets (Cryptocurrencies)?*, <<https://www.bankofengland.co.uk/knowledgebank/what-are-cryptocurrencies/>>, 15.02.2021.
- Bankrate (2021), *What is a cryptocurrency wallet?*, <<https://www.bankrate.com/glossary/c/cryptocurrency-wallet/>>, 03.01.2022.
- BCS (2016), *The Digital Economy*, <https://policy.bcs.org/sites/policy.bcs.org/files/digital%20economy%20Final%20version_0.pdf>, 16.01.2021.
- BTV (2019), *Blockchain İçin Kavramsal Mimari*, <<https://bctr.org/wp-content/uploads/2019/04/04-Blockchain-icin-kavramsal-mimari.pdf>>, 16.02.2021.
- Çarkacıoğlu, A. (2016), *Kripto-Para Bitcoin*, <<https://www.ekovizyon.com.tr/wp-content/uploads/2017/01/SPK-Bitcoin-Raporu.pdf>>, 22.01.2021.
- Casey, A. et al. (2020), *Reviewing the Boundary Between Valuables and Financial Assets in SNA 2008 In the Light of Bitcoin and Similar Crypto-Assets and The UK Experience of Non-Monetary Gold*, <https://unstats.un.org/unsd/nationalaccount/aeg/2020/M14_BD2_Boundary_Valuables_Financial_Crypto_Assets.PDF>, 13.01.2021.
- Castrén, O. et al. (2020), *Digital Currencies in Financial Networks*, <https://www.eba.europa.eu/sites/default/documents/files/document_library/887439/Digital%20currencies%20in%20financial%20networks.pdf>, 16.01.2021.
- CFI (2021), *What Is Virtual Currency?*, <<https://corporatefinanceinstitute.com/resources/knowledge/other/virtual-currency/>>, 16.02.2021.
- Chaum D.L. (1982), "Computer Systems Established, Maintained, And Trusted by Mutually Suspicious Groups", *Thesis*, Berkeley: University of California.
- Chaum, D. (1983), "Blind Signatures for Untraceable Payments", in: D. Chaum et al. (eds.), *Advances in Cryptology* (199-203), Boston: Springer.
- Chaum, D. et al. (1990), "Untraceable Electronic Cash", in: S. Goldwasser (ed.), *Advances in Cryptology - CRYPTO '88* (319-327), New York: Springer-Verlag.

- CIAT (2020), *Cryptocurrency Taxation: How to Take a Step Forward*, <<https://www.ciat.org/tributacion-de-las-criptomonedas-como-dar-un-paso-adelante/?lang=en.%20https://koinly.io/guides/crypto-tax-australia/>>, 12.01.2021.
- Coindesk (2021), *Bitcoin (USD) Price*, <<http://www.coindesk.com/price/>>, 24.02.2021.
- Crypyopara (2021), *Dijital Para Nedir, Coin Yatırım & Kazanç Etme Yolları*, <<http://cryptopara.net/kripto-para-madenciligi-hakkinda-haberler-bilgiler/8-blog/24-dijital-para-coin-nedir-nasil-kazanc-elde-ettirir.html>>, 11.02.2021.
- Dursun, T. (2021), *Blokzincir Teknolojisi*, <<https://bag.org.tr/?p=734>>, 12.02.2021.
- EFRAG (2020), *Accounting for Crypto-Assets (Liabilities): Holder and Issuer Perspective*, <<http://www.efrag.org/Assets/Download?assetUrl=/sites/webpublishing/SiteAssets/EFRAG%2520Discussion%2520Paper-Accounting%2520for%2520Crypto-Assets%2520%28Liabilities%29-%2520July%25202020.pdf>>; 14.01.2021.
- Ersoy, E.C. & E. Kartın (2021), *Turkey: Taxation of Cryptocurrency*, <<https://www.mondaq.com/turkey/fin-tech/1111456/taxation-of-cryptocurrency>>, 05.01.2022.
- Esener, E. (2017), *Bitcoin (Dijital) Para Nedir?*, <<http://startup hukuku.com/bitcoin-nedir/>>, 07.01.2021.
- ESMA (2020), *Initial Coin Offerings and Crypto-Assets*, <https://www.esma.europa.eu/sites/default/files/library/esma50-157-1391_crypto_advice.pdf>, 14.01.2021.
- Haber, S. & W. Stornetta (1991), "How to Time-Stamp A Digital Document", *J. Cryptology*, 3, 99-111.
- Hg.org (2021), *Bitcoin - Facts, Mining, and Investment Safety in Turkey*, <<https://www.hg.org/legal-articles/bitcoin-facts-mining-and-investment-safety-in-turkey-45836>>, 05.01.2022.
- Houben, R. & A. Snyers (2020), *Crypto-Assets Key Developments, Regulatory Concerns and Responses*, <[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/648779/IPOL_STU\(2020\)648779_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/648779/IPOL_STU(2020)648779_EN.pdf)>, 16.01.2021.
- IMF (2019), *Treatment of Crypto Assets in Macroeconomic Statistics*, <<https://www.imf.org/external/pubs/ft/bop/2019/pdf/Clarification0422.pdf>>, 12.02.2021.
- IRGLOBAL (2018), *Crypto Currency Taxation in Croatia*, <<https://www.irglobal.com/article/cripto-currency-taxation-in-croatia/>>, 14.01.2021.
- Koinly (2020), *Cryptocurrency Taxes in Australia: The 2020 Guide*, <<https://koinly.io/guides/crypto-tax-australia/>>, 16.01.2021.
- Koinly (2020), *Cryptocurrency Taxes in the UK: The 2020 Guide*, <<https://koinly.io/guides/hmrc-cryptocurrency-tax-guide/#:~:text=There%20are%20no%20taxes%20on,when%20you%20eventually%20sell%20them>>, 18.01.2021.
- Konst, S. (2000), *Secure Log Files Based on Cryptographically Concatenated Entries*, <<http://www.konst.de/stefan/seclog.pdf>>, 16.01.2021.
- Library of Congress (2021), *Taxation of Cryptocurrency Block Rewards in Selected Jurisdictions*, <<https://www.loc.gov/law/help/cryptocurrency/block-rewards/taxation-block-rewards.pdf>>, 14.02.2021.

- Majumdar, A.K. (2019), "Potential Applications for Broadband Global Internet Connectivity", in: A.K. Majumdar (ed.), *Optical Wireless Communications for Broadband Global Internet Connectivity* (259-268), Elsevier.
- McClure, Z. (2020), *Crypto Taxes in South Africa*, <<https://tokentax.co/guides/crypto-taxes-in-south-africa/>>, 11.02.2021.
- Mitchell, R. (2019), *France Won't Tax Crypto-To-Crypto Trades, But Will Hit Gains Cashed Out*, <<https://news.bloombergtax.com/daily-tax-report-international/france-wont-tax-crypto-to-crypto-trades-but-will-hit-gains-cashed-out>>, 17.01.2021.
- Nakamoto, S. (2008), *Bitcoin: A Peer-To-Peer Electronic Cash System*, <<https://bitcoin.org/bitcoin.pdf>>, 05.01.2021.
- OECD (2015), *Addressing the Tax Challenges of The Digital Economy Action 1 - 2015 Final Report*, <<http://www.oecd.org/tax/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm>>, 05.01.2021.
- OECD (2020), *Taxing Virtual Currencies: An Overview of Tax Treatments and Emerging Tax Policy Issues*, <<https://www.oecd.org/tax/tax-policy/taxing-virtual-currencies-an-overview-of-tax-treatments-and-emerging-tax-policy-issues.pdf>>, 10.01.2021.
- Portugalhomes (2020), *Cryptocurrency Is Tax-Free in Portugal*, <[https://www.portugalhomes.com/news/article/170/cryptocurrency-is-tax-free-in-portugal#:~:text=The%20Portuguese%20Tax%20Authority%20\(PTA,exchange%20will%20be%20tax%2Dfree](https://www.portugalhomes.com/news/article/170/cryptocurrency-is-tax-free-in-portugal#:~:text=The%20Portuguese%20Tax%20Authority%20(PTA,exchange%20will%20be%20tax%2Dfree)>, 02.01.2021.
- Sia-Partners (2020), *What Is Virtual Money*, <<https://www.sia-partners.com/en/news-and-publications/from-our-experts/what-virtual-money>>, 14.02.2021.
- Sumsub (2021), *Turkey Enacts Its First Crypto Regulations: Here's How Businesses Can Adapt, Legal & Compliance*, <<https://sumsub.com/blog/crypto-regulations-turkey/>>, 06.01.2021.
- UNCTAD (2019), *Digital Economy Report 2019*, <https://unctad.org/system/files/official-document/der2019_en.pdf>, 16.01.2021.
- Winheller (2018), *Bitcoin Taxation in Germany*, <<https://www.winheller.com/fileadmin/redaktion/dateien/downloads/vat-exemption-bitcoin-germany.pdf>>, 16.01.2021.
- Yereli, A.B & I.F. Orkunoğlu-Şahin (2018), "Cryptocurrencies and Taxation", in: *Proceedings of the 5th International Annual Meeting of Sosyoekonomi Society*, 25-27 October 2018.
- Zelaya, D. (2020), *Cryptocurrency Taxes USA: Your Guide to Crypto Taxes for 2020*, <<https://www.exodus.com/blog/cryptocurrency-taxes-usa/>>, 18.01.2021.
- Zmudzinski, A. (2019), *France Won't Tax Crypto-Only Trades, Will Tax Crypto-To-Fiat Sales*, <<https://cointelegraph.com/news/france-wont-tax-crypto-only-trades-will-tax-crypto-to-fiat-sales>>, 14.02.2021.
- Zwijnenburg, J. (2020), *Issues Note on the Recording of Cryptocurrencies Without a Corresponding Liability in The System of National Accounts*, <[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF\(2020\)2&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF(2020)2&docLanguage=En)>, 14.01.2021.
- Zwijnenburg, J. et al. (2020), "The recording of crypto assets in the system of national accounts", in: *Proceedings of the 14th Meeting of the Advisory Expert Group on National Accounts*, 5-9 October 2020.