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RESEARCH ARTICLE

Taxation of Crypto Assets: The Example of U.S. Federal Income Tax

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Abstract

Crypto assets are one of the important milestones of digitalization. They have created paramount problems related to tax systems. The United States, which was one of the first countries where these assets became widespread, gained experience with the regulations it introduced. Observing these experiences and making inferences for similar regulations to be made in Türkiye is the main objective of this article. Judicial decisions and doctrinal studies in US law on the subject are examined, and the activities of the US Internal Revenue Service are explained. It should be said that although the United States began regulations roughly ten years ago, there is no undisputed solution for the taxation of crypto assets in the country. Still, some inferences could be made from the United States experience. One of the main results reached is that tax regulations regarding crypto assets should not impose heavy burdens and financial duties on taxpayers. It has been concluded that laying a withholding responsibility on intermediary institutions such as crypto asset exchanges or a transaction tax with a small percentage is an important tool in ensuring tax compliance. Consulting experienced crypto asset users and intermediary institutions will be a crucial step while conducting a regulatory impact analysis.

Keywords

Crypto assets, digital money, income tax, IRS, Coinbase case

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Introduction

Taxation is one of the areas most affected by digitalization because tax systems depend upon the taxation of economic systems consisting of tangible assets or services and are based on the 20th century and earlier economic and technological systems. With digitalization, the proliferation of gains and wealth derived from abstract and digital assets hinders the implementation of fair taxation with these current outdated tax systems. As the taxation systems grounded in the tangible world have all their elements shaped accordingly, attempting to incorporate intangible things into the system is unnatural, resembles a patchwork and fails to secure justice. In this regard, all the nations in the world need substantial reforms in their tax systems. Already there is ongoing work under the supervision of the OECD, named Base Erosion and Profit Shifting, which aims for a common solution worldwide in this direction[1].

Crypto assets, starting with Bitcoin, have multiplied the tax problems caused by digitalization because many crypto asset systems, especially Bitcoin, aim to be used as money in essence. Money is one of the main building blocks in the economic and tax systems. All transactions and tax settlements in the economy have been made by using money as a unit of account and means of payment. Thanks to Bitcoin or a similar decentralized crypto asset replacing national fiat currencies, it is not difficult to foresee that such a radical change in money could fundamentally alter the entire tax system. One shouldn't pass by without mentioning that such a possibility is remote, but the related discussions have already begun.

In addition to crypto assets aiming to be money, there are other crypto systems trying to fulfill various objectives. Each of these systems, ranging from those resembling stocks to those used only in virtual games, can lead to different tax issues. One of the leading countries in the taxation of all these crypto assets is the United States (U.S.). The Internal Revenue Service (IRS), which is the U.S. Federal Tax Authority, issued its first administrative guidance regarding income tax issues related to Bitcoin and other "virtual currencies" in 2014[2]. Since then, despite being considered insufficient by some, it has continued its efforts towards the taxation of such assets.

In this study, considering its status as one of the initial states of taxing crypto assets, the taxation of crypto assets will be examined in the framework of the U.S. Federal Income Tax. Alongside the concept of crypto assets, it will be attempted to provide conceptual clarity by discussing the terms electronic money, virtual money, digital money, and cryptocurrencies which are used for similar digital or electronic assets. An overview of the U.S. federal income tax system will be presented, and it will be explained how crypto assets are incorporated into the system. Some inferences will be made for the Turkish tax system from the U.S. implementation.

1 OECD, 'International collaboration to end tax avoidance' (*OECD BEPS,* 4 September 2022), < https://www.oecd.org/tax/beps/> accessed 20 August 2023.

2 IRS, *'Notice 2014-21',* [2014] Washington US

I. Crypto Assets and Its Counterparts

The term "crypto asset" does not have historical origins or an immense doctrine which is established on it. Thus, when looking at the doctrine, it is difficult to find a clear answer regarding what it is, its functions, and its attributes. There are different definitions of crypto assets which could misguide anyone who wants to learn about them. It is commonly used as an umbrella term that refers to digital tokens that are minted on and exchanged through distributed ledger systems with blockchain technology[3]. Before the concept of crypto assets, we were used to encountering terms like electronic money, virtual money, digital money, and cryptocurrency more frequently. However, we see that governments prefer the term 'crypto asset' in their regulations recently[4]. It will be beneficial to clarify these concepts to prevent confusion.

A. Electronic Money (E-Money)

It could be said that e-money has more history than others. In fact, e-money is the digital form of the current fiat and bank money system. Today e-money systems, which have been appearing in different forms since the 1960s, are more common than paper and coin money. First of all, interbank markets converted to an electronic system. Later on, electronic money systems, which initially began with prepaid cards, continued with various devices and have become predominantly used over the Internet nowadays[5]. Due to being a part of the existing monetary structure based on the sovereignty of nation-states, it is subject to prevailing regulations[6].

B. Virtual Currency / Digital Currency

With the advancement of digitalization, various units of account and/or payment instruments have emerged to facilitate transactions in numerous virtual environments. Units like the virtual gold found in games such as the World of Warcraft is an example

3 Apolline Blandin, and others, 'Global Crypto asset Regulatory Landscape Study' (Cambridge Centre for Alternative Finance 2019) 15.

4 For instance, the Central Bank of the Republic of Türkiye used the term 'crypto asset' in the regulation titled 'Regulation on the Non-Usage of Crypto Assets in Payments,' which was issued in April 2021 (Official Journal: 31456). Furthermore, in May 2021, 'crypto asset service providers' were added to the list of obligated parties in the Regulation on Measures Regarding the Prevention of Money Laundering and the Financing of Terrorism (Official Journal: 31471). The term 'crypto asset' is also used in EU Directives. E.g.: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Markets in Crypto-assets, and amending Directive (EU) 2019/1937. The international institution Financial Stability Board uses the term 'crypto asset' in its advisory decisions to countries and defines this concept as follows: It is a privately issued digital asset, usually based on encryption, distributed ledger, or similar technology. Q.v.: Financial Stability Board, 'Crypto-assets and Global "Stablecoins"', (Financial Stability Board, 2022). Mexico and Hong Kong have used the term 'virtual asset'. Q.v.: Blandin and others (n 3) 114.

5 Jack Weatherford, *The History of Money,* (Crown Publishers 1997) 233-240; European Central Bank, 'Report on Electronic Money' (European Central Bank 1998) 7, 8.

6 In Türkiye, the electronic money issuers are regulated by Law No. 6493 on Payment and Securities Settlement Systems, Payment Services, and Electronic Money Institutions.

of these instruments[7]. In addition, some entrepreneurs have designed monetary systems and units of their own, intended for daily use. Private monetary systems like Alipay and M-Pesa, often used on online shopping websites, serve as examples of these[8]. Alongside e-money, which is a part of the current monetary structure, the emergence of independent monetary systems with their own units and administrators has revealed that the concept of e-money does not encompass them. In other words, the fundamental distinct point of these systems from e-money is their independent nature from national fiat currencies[9]. These types of monetary systems have been coined as virtual currency or digital currency. Cryptocurrencies, thanks to their encryption techniques, have gained features such as decentralization, irreversibility of transactions, cybersecurity, and pseudo-anonymity, setting them apart from digital and virtual currencies. However, digital or virtual currency terms could also be wielded for cryptocurrencies[10].

In the beginning, it was observed that states used the term "virtual currency" more often for all these systems not connected to the fiat money system[11]. However, as mentioned above, in today's world, the concept of a "crypto asset" is more widespread. In recent times, we have witnessed the term "central bank digital currency" being used to refer to the fiat digital currencies that central banks plan to issue using encryption techniques. Ultimately, the concepts of virtual currency and digital currency can be used interchangeably and the distinction between them is not clear.

Digital or virtual currencies are classified based on their connection to the real world. The first group consists of closed system currencies. In these systems, the currency is only used in a virtual environment, not bought or sold with national currencies, and not used for real-world payments. Some virtual currencies used in video games are examples of these currencies. The second group of currencies is primarily designed for use in virtual environments, but they can also be bought, sold, and used for payments in the real world through using national currencies. These are also referred to as hybrid systems. Finally, there are currencies that are created with the sole purpose of being used for real-world payments. In such classifications, many cryptocurrencies like Bitcoin and centralized systems like E-Gold fall into this category. Currencies in this category are referred to as open system digital/virtual currencies[12].

7 Jens Holm and Erkki Mäkinen, 'The Value of Currency in World of Warcraft' [2018] Journal of Internet Social Networking & Virtual Communities 1, 13.

8 David LEE Kuo Chuen and Ernie G.S. Teo, 'Emergence of FinTech and the LASIC principles' Winter (2015) The Journal of Financial Perspectives 24, 31

9 P. Carl. Mullan, *A History of Digital Currency in the United States New Technology in an Unregulated Market,* (Springer Nature 2016) 6.

10 Suhail Abboushi, 'Global Virtual Currency–Brief Overview' 19 *6* (2017) Journal of Applied Business & Economics 10, 18; Max Kubát, 'Virtual Currency Bitcoin in the Scope of Money Definition and Store of Value' 30 (2015) Procedia Economics and Finance 409, 416.

11 Blandin and others (n 3) 12.

12 David Chaikin, 'The Rise of Virtual Currencies, Tax Evasion and Money Laundering', 20 *4* (2013) 352, 354; United

C. Cryptocurrencies

Decentralized cryptocurrencies like Bitcoin and Ethereum have been named as cryptocurrencies due to the encryption techniques they wield. Cryptocurrencies, which could be considered a subcategory of virtual or digital currencies, have gained advantages over other digital or virtual currencies due to these techniques. These advantages include the irreversibility of transactions, mobility, anonymity, enhanced systemic cybersecurity, and the elimination of the need for intermediaries[13].

There are various perspectives on why cryptocurrencies emerged and their intended purposes. In 2009, Bitcoin emerged as the pioneer of cryptocurrencies. In addition to those who claim that Bitcoin serves as a hedge against inflation, there are also those who emphasize its potential as a decentralized global currency, a means of reducing reliance on traditional financial systems and intermediaries, and a way to empower individuals with more control over their financial transactions. The multifaceted nature of cryptocurrencies has led to a range of interpretations about their origins and goals[14]. Moreover, there are numerous speculations regarding the identity of Satoshi Nakamoto, the founder of Bitcoin[15]. In this study, we will not delve into the details of these debates. However, it's worth noting that the individual or individuals known as Satoshi Nakamoto, who is said to have developed the Bitcoin system and later left it, pioneered subsequent cryptocurrencies and paved the way for a new era in digital technologies. Through the software they created, a non-inflationary currency was established, ensuring that everyone could spend their Bitcoins only once. Moreover, this achievement was made without the need for any intermediary institutions such as banks or central banks. With the adoption of Bitcoin, digital systems like blockchain are even being considered for use by central banks, the architects and overseers of the existing monetary system, in their own central bank digital currencies. Indeed, the emergence and impact of cryptocurrencies have been significant in reshaping the landscape of finance and technology.

D. Crypto Asset

Certainly, one of the most important aspects of national sovereignty is the authority to issue currency. Based on this authority, states mint their official currency to serve as the unit of account and medium of exchange within their countries. This allows them to exert significant influence on the economic structure of their nations and

States Government Accountability Office, 'Virtual Economies an Currencies Additional IRS Guidance Could Reduce Tax Compliance Risks' (Report to the Committee on Finance, U.S. Senate 2013) 4, 5.

13 IRS, 'Rev. Rul. 2019-24' (IRS 2019) <https://www.irs.gov/pub/irs-drop/rr-19-24.pdf> accessed 08.10.2023.

14 Sangyup Choi and Junhyeok Shin, 'Bitcoin: An inflation hedge but not a safe haven' [2022] Finance Research Letters 1, 8; Benjamin M Blau and Todd G. Griffith and Ryan J. Whitby, 'Inflation and Bitcoin: A descriptive time-series analysis' [2021] Economics Letters 1, 5.

15 Jens Ducree, 'Satoshi Nakamoto and the Origins of Bitcoin – The Profile of a 1-in-a-Billion Genius' (arxiv 2022) < https://arxiv.org/abs/2206.10257> accessed 20.05.2023.

generate seigniorage income. Therefore, the power to issue currency is not something that states easily relinquish.

The emergence and widespread use of cryptocurrencies are not necessarily aligned with the interests of nation-states. If a digital/virtual/cryptocurrency like Bitcoin were to achieve broad acceptance and usage in place of the fiat currency issued by a nation state, it could undermine the significance of state currency issuance. In such a scenario, an obsolete currency wouldn't generate seigniorage income nor have an impact on the nation's economic structure. Thus, if an alternative form of currency gains widespread usage, the authority of nation states to issue their own currency could lose its importance. In other words, the rise of cryptocurrencies has led to discussions and considerations about the potential disruption they could cause to the traditional financial and monetary systems, including the role of nation-states in currency issuance and control.

Governments are cautious about the potential shift in the status quo where their own issued fiat currency is the sole legal tender within their countries. This caution has led to the avoidance of labelling payment instruments that operate on cryptosystems as "cryptocurrency." This is because if widely adopted, such crypto payment systems could challenge the exclusive control that nation states have over their currency issuance and management. Therefore, they have begun to wield the "crypto asset" term for these "currencies"[16]. Additionally, certain entities operating within cryptosystems do not inherently claim to be currencies. Some resemble securities, others resemble commodities, and some are merely tokens used within virtual games. This situation further supports the term "crypto asset" for classification.

By avoiding the term "cryptocurrency," governments may aim to differentiate between the technology or payment mechanisms that underlie various cryptocurrencies and the sovereign power they have in issuing and regulating traditional currency. This distinction helps governments maintain authority over their national monetary systems and monetary policies, while also acknowledging the technological advancements and innovations brought by blockchain and crypto-related systems. The relationship between cryptocurrencies, national currencies, and the regulatory environment is complex and continues to evolve as governments and regulatory bodies grapple with

16 In a publication where it defined cryptocurrencies, the Bank of England noted that "cryptocurrency" and "crypto-assets" mean the same thing, but the term "cryptocurrency" is more common in the general public. Nevertheless, it continued to use the concept of "crypto-assets." Q.v.: Bank of England, 'What are cryptoassets (cryptocurrencies)?' (Bank of England 2020) < https://www.bankofengland.co.uk/knowledgebank/what-are-cryptocurrencies> accessed 13.03.2023; Türkiye has prohibited the use of crypto assets as a means of payment through a regulation issued in May 2021 (Regulation on the Non-Use of Crypto Assets in Payments). Besides Türkiye, numerous countries are imposing varying degrees of bans on the utilization of crypto assets within their territories. Some countries are prohibiting their use as a means of payment, others are preventing the establishment of exchanges for crypto asset trading, and some are even banning nearly all transactions related to crypto assets, similar to China. For an up-to-date list of these countries, please refer to: Euronews, 'Bitcoin ban: These are the countries where crypto is restricted or illegal' (euronews.next 2022) < https://www.euronews.com/next/2022/08/25/bitcoin-ban-these-are-the-countries-where-crypto-is-restricted-or-illegal2> accessed 20.06.2023.

the implications of these new financial technologies.

Countries can define cryptosystems in various ways for different purposes. They can subject them to anti-money laundering regulations, treating them as if they were currency. However, when it comes to taxation, they can categorize them as property or assets. One country that follows this approach is the U.S. The U.S. Internal Revenue Service (IRS) defined crypto assets as property in a guidance issued in 2014. Additionally, the regulatory bodies overseeing commodity markets, capital markets, and the institution, aiming to prevent money laundering in the U.S., classify these assets in different ways specific to their respective areas[17].

While it might seem that the government treats these assets differently based on its convenience in various areas, the situation isn't quite as straightforward. This is because certain crypto assets can be considered to be currency, some to be securities, and some others might exhibit characteristics like commodities. Consequently, the relevant regulatory bodies create regulations to oversee the crypto assets that fall within their respective areas. The differentiation among crypto assets stems from their diverse nature, leading to tailored regulatory approaches within distinct areas of financial oversight.

II. The US Federal Income Tax System

The United States is a federal nation with a central federal government alongside 50 individual states. Throughout the country, both the federal government and the respective state governments hold taxation authority. The power to tax is shared between the federal and state governments, allowing for a division of tax responsibilities between them[18].

Unlike many European countries and Türkiye, the most significant source of revenue for the federal government in the U.S. is income tax. In the year 2021, approximately 50.5% of all federal government revenues (around 2 trillion dollars) are derived from income tax[19]. In fact, when considering the taxes collected through withholding, which is treated as a separate tax and collected using the pay-as-you-earn method from wage earners, this percentage rises to around 80%[20]. Income tax is a progressive tax ranging from 10% to 37%, applicable to all U.S. citizens. In the U.S. federal income tax system, unless explicitly exempted by law, all incomes are

17 TIGTA, 'The Internal Revenue Service Can Improve Taxpayer Compliance for Virtual Currency Transactions' (TIGTA 2020) <https://www.tigta.gov/sites/default/files/reports/2023-01/202030066fr.pdf> accessed 08.10.2023.

18 The White House, 'Our Government' (The White House 2022) https://www.whitehouse.gov/about-the-white-house/our-government/ accessed 03.05.2023.

19 Molly F Sherlock and Donald J Marples, 'Overview of the Federal Tax System in 2022' (Congressional Research Service 2022).

20 IRS, '2021 Data Book' (Internal Revenue Service 2022) <https://www.irs.gov/pub/irs-prior/p55b--2022.pdf> accessed 08.10.2023.

subject to taxation under a single tax base, even if they are not specifically mentioned in the examples listed in the law[21]. In 1955, a case defined the concept of income, and it was established that any tax falling within this definition would be subject to income tax. According to this case, the definition of income in the U.S. federal income tax system is undeniable accession to wealth, clearly realized, and over which the taxpayers have complete dominion[22].

When all income meeting the criteria is added together, the individual who is a U.S. citizen finds his gross income. Taxation is not conducted on this income. Taxpayers calculate their adjusted gross income by deducting various expenses from the gross income, such as contributions to individual retirement accounts and student loan interest. In addition, personal tax exemptions are subtracted to arrive at the taxable base on which the tax rate is applied[23]. From this taxable base, the amount of tax to be paid is determined using a progressive tax rate schedule. The amount of tax payable can further decrease with tax reductions, which are known as tax credits. There are even certain credits that can zero out the tax liability and result in a refund to the taxpayer[24].

In order to support individual capital, nearly everything owned for personal use and investment purposes, as well as specific dividend incomes, are subject to taxation at rates lower than regular income tax rates[25]. This tax, known as capital gains tax, also includes progressive rates of 0%, 15%, and 20%. To be subject to these rates, capital assets falling under this category must be sold after being held for more than a year. If such capital assets are sold within a year, they are subject to regular tax rates[26].

21 IRS, 'Publication 525 (2021), Taxable and Nontaxable Income' (IRS.GOV 2021) <https://www.irs.gov/publications/p525> accessed 06.05.2023; US Internal Revenue Code Subtitle A Chapter 1 Subchapter B Part I § 61 states that: Except as otherwise provided in this subtitle, gross income means all income from whatever source derived, including (but not limited to) the following items:

(1)Compensation for services, including fees, commissions, fringe benefits, and similar items;
(2)Gross income derived from business;
(3)Gains derived from dealings in property;
(4)Interest;
(5)Rents;
(6)Royalties;
(7)Dividends;
(8)Annuities;
(9)Income from life insurance and endowment contracts;
(10)Pensions;
(11)Income from discharge of indebtedness;
(12)Distributive share of partnership gross income;
(13)Income in respect of a decedent; and
(14)Income from an interest in an estate or trust.

22 *Commissioner of Internal Revenue v. Glenshaw Glass Co.* [1955] U.S. Supreme Court [1955] 348 U.S. 426.

23 Brian Roach, *Taxes in the United States: History, Fairness, and Current Political Issues,* (A GDAE Teaching Module on Social and Environmental Issues in Economics 2010) 4, 5.

24 Molly F. Sherlock and Donald J.Marples (n 19) 8.

25 IRS, 'Topic No. 409 Capital Gains and Losses' (IRS.GOV 2022) <https://www.irs.gov/taxtopics/tc409#:~:text=Capital%20Gain%20Tax%20Rates,or%20qualifying%20widow(er).> accessed 25.05.2023.

26 Molly F. Sherlock and Donald J.Marples (n 19) 3, 4.

Due to being the primary source of income for the United States, federal income tax is subject to significant policy changes, resulting in a substantial and intricate body of laws and regulations[27]. We refrain from delving into the complexities of the system since doing so would go beyond the scope of this study. In the following parts, we will touch upon specific taxation regimes within the U.S. federal income tax system as relevant.

III. The Taxation of Crypto Assets in the U.S. Federal Income Tax System

As a leader in the process of digitalization, the U.S. has been at the forefront of various digital transformations, ranging from electronic money to cryptocurrencies. Some digital currencies with a centralized structure, having their own unit of account without using cryptographic techniques, first emerged in the U.S.[28]. After the emergence of Bitcoin, one of the first countries where its legal and illegal usage proliferated was also the US. In the initial years of Bitcoin, it was revealed that many illicit activities on an internet site named Silk Road were conducted using Bitcoin for payments in the U.S. The Silk Road site, which operated on the dark web, was shut down by the FBI in 2012, and its founder was arrested[29].

In the U.S., due to the widespread use of cryptocurrencies in comparison to other countries, it has been necessary to address the issues posed by these assets. One of these issues is the risk for crypto assets to replace tax havens. Indeed, it is argued that crypto assets possess more attributes than traditional tax havens. According to this opinion, while tax havens could grant taxpayers such as tax avoidance (or minimal payment) and anonymity, crypto assets go further by eliminating intermediaries as well. Institutions like banks, acting as intermediaries, enabled individuals to engage in tax evasion by facilitating transfers to tax havens. Governments could exert pressure or enter agreements with these institutions to prevent tax evasion by taxpayers and tax havens. However, cryptocurrencies remove this option. Individuals can engage in crypto asset trading solely through internet connectivity without the need for intermediaries, using personal digital wallets. As a result, crypto assets have the potential to hinder governments' efforts to combat tax havens[30]. Indeed, there is evidence suggesting that crypto assets have been used for the purpose of tax evasion[31].

27 Brian Roach (n 23); Tax Foundation, *Income Tax Illustrated A Visual Guide to Income in America and How It Is Taxed* (Tax Foundation 2015) 1.

28 Ali Sunyaev, *Internet Computing* (Springer 2020) 271, 272.

29 Edgar G. Sanchez, 'The 21st Century's Money Laundering and Tax Havens', 28 *1* (2017), University of Florida Journal of Law and Public Policy 167, 182.

30 Omri Marian, 'Are Cryptocurrencies Super Tax Havens?' 112 (2013) Mich. L. Rev. First Impressions 38, 40; Anthony Freeman, 'Bitcoin: The Ultimate Offshore Bank Account?' (Economics and Liberty 2011) < https://economicsandliberty.wordpress.com/2011/08/23/bitcoin-the-ultimate-offshore-bank-account/ > Accessed 12.04.2023; Benjamin Molloy, 'Taxing the Blockchain: How Cryptocurrencies Thwart International Tax Policy' 20 (2019) Oregon Review of International Law 623, 631-635; Edgar G. Sanchez (n 29) 189.

31 Eleazar David Melendez, 'Bitcoin Celebrated As Way To Avoid Taxes' (HUFFPOST 2013) < https://www.huffpost.com/entry/bitcoin-taxes_n_3093182 > accessed 22.05.2023; Ron Dorit and Adi Shamir, 'Quantitative analysis of the full

It is noted that the saying "death and taxes are certain" has become an exaggeration in terms of taxes due to the advent of crypto assets[32].

Cryptosystems, while offering the opportunity to evade government oversight after their establishment, still face the challenge of finding a suitable environment during their creation. It is observed that certain states, which used to function as tax havens, have shifted from being tax havens to providing favorable conditions for entrepreneurs developing cryptosystems after developed countries achieved success in combating them. These states, which once facilitated individuals' income and wealth storage through centralized intermediary institutions like banks, now aim to facilitate the creation of decentralized crypto systems to continue aiding tax evasion. Entrepreneurs looking to establish cryptosystems face numerous regulations in developed countries, while tax havens grant them both freedom and support. The options available to developed countries against such developments are limited. Cryptocurrency systems, even if established by specific individuals or entities in tax havens, can be utilized by people worldwide through the Internet. Although stringent measures like cutting off Internet connectivity with relevant regions could prevent misuse, their implementation is challenging. Therefore, before establishing cryptosystems, it is recommended that the individuals who want to create a cryptosystem must be responsible for adhering to a legal framework under the supervision of an international coordination consisting of states around the world[33].

A .The Classification of Crypto Assets

Determining what an asset is holds vital importance in establishing a tax regime. Therefore, before outlining how crypto assets will be taxed, it's essential to determine how they are classified. As one of the first countries where crypto assets gained widespread use, the U.S. has brought these assets under the scrutiny of its relevant institutions. Each institution has made distinct definitions pertaining to crypto assets within its own domain.

In the U.S., the Financial Crimes Enforcement Network (FinCEN), responsible for combating money laundering, subjects crypto asset exchanges to anti-money laundering obligations. The Securities and Exchange Commission (SEC), a capital markets authority, regulates them under securities regulations. CFTC, the regulatory body overseeing commodity markets, considers crypto assets as commodities and supervises their issuance and trading in accordance with its own regulations[34]. In its

bitcoin transaction graph' (International Conference on Financial Cryptography and Data Security Springer 2013).

32 Nika Antonikova, 'Real Taxes on Virtual Currencies: What Does the I.R.S. Say' 34 *3* (2015) Virginia Tax Review 433, 434.

33 Omri Marian, 'Blockchain Havens and the Need for Their Internationally-Coordinated Regulation' 20 *4* (2019) North Carolina Journal of Law & Technology 529.

34 Roland Weekley, 'The Problematic Tax Treatment of Cryptocurrencies' 17 (2018) Florida State University Business Review 109, 138-144.

2014 guidance, the IRS used the term "virtual currencies" to refer to crypto assets and indicated that they could be used as a form of payment or investment. Additionally, the IRS recognized their potential use as a medium of exchange, store of value, and unit of account. However, it categorized them as "property," ultimately classifying them as capital assets. Crypto assets that are only used within the virtual platform and not converted into fiat currencies were not included within the scope of the guidance[35]. However, it is argued that this decision does not align with the nature of crypto assets. According to this perspective, crypto assets have more of a characteristic of "divisibility" than traditional currencies. Moreover, their classification as "property" would impose an increased tax burden on taxpayers due to each crypto asset transaction forming a separate taxable event. This would burden taxpayers and steer them toward viewing crypto assets as long-term capital investments rather than currencies. To address these challenges, there was an attempt in the US Congress to introduce legislation that would recognize crypto assets as currencies. However, this proposal was not accepted[36]. Therefore, crypto assets have to be considered as property for tax purposes.

There have been varying definitions of crypto assets by judicial authorities as well. For instance, in a court ruling related to capital markets law in 2013, it was stated that Bitcoin is a currency with the only deficit of narrow usage[37]. In other cases, Bitcoin has been identified as a means of payment[38]. In another ruling, the assumption that Bitcoin is a currency has been rejected. According to this decision, Bitcoin, which has a volatile value mostly, is not controlled by a central administrator, lacks physical presence, and far from being a currency-like entity[39].

All these variations indicate that there is still a long way to go in reaching a consensus on the nature of crypto assets. Within legal doctrine as well, there are differing opinions regarding the nature of these assets[40]. The reason behind this lies in the decentralized, anonymous, and irreversible nature of crypto assets conflicting with established frameworks. These new digital technologies, which the current systems may not fully recognize, can lead to diverse regulations and definitions in various domains. Eventually, there could be a consensus reached within the legal framework concerning crypto assets. However, until then, it's evident that a fundamental reform is needed for these assets, given the complexities they present. For now, in the U.S., crypto assets are recognized as a property for income taxation thanks to the IRS guidance.

35 IRS (n 2).

36 Roland Weekley (n 34) 112, 125.

37 *Sec. & Exch. Comm'n v. Shavers,* [2013] United States District Court EASTERN DISTRICT OF TEXAS SHERMAN DIVISION [2013] CASE NO. 4:13-CV-416.

38 *United States of America v. Ross William Ulbricht,* [2014] United States District Court, S.D. New York. [2014] 31 F. Supp. 3d 540; *United States of America, v. Anthony R. Murgio,* [2016] United States District Court, S.D. New York [2016] 209 F. Supp. 3d 698.

39 *Florida v. Espinoza,* [2016] Florida Circuit Court [2016] F-14-2923.

40 Ed Howden, 'The Crypto-Currency Conundrum: Regulating an Uncertain Future' 29 *4* (2015) Emory International Law Review 741, 761-769.

B. Taxation of Crypto Assets

In the context of the U.S. federal income tax law, the fundamental regulations concerning the taxation of crypto assets are established by the IRS, which is the federal income tax authority. In addition, the Treasury Inspector General for Tax Administration (TIGTA), operating under the U.S. Department of the Treasury, is responsible for overseeing the IRS's efforts in the field of crypto asset taxation and reporting.

The IRS has provided its views on the taxation of crypto assets through two administrative notifications issued in 2014 and 2019, as well as a Frequently Asked Questions (FAQ) page that has been periodically updated. While these administrative notifications are not legally binding for taxpayers, they do reflect the stance of the tax administration, implying that the implementation is likely to follow these guidelines. It's not difficult to anticipate that crypto asset users who do not comply with the rules outlined in these guidelines may need to seek their rights in court[41]. Regulations do not encompass closed system crypto assets that are valid only in the virtual platforms and have no connection to the real world[42].

According to these regulations, taxpayers will include the crypto assets in their total income at acquisition or invoice time. Fair value, if the crypto asset is traded on an exchange and the transactions on this exchange are determined stably and reasonably based on market supply and demand, is the equivalent value in dollars on that exchange. For those not traded on an exchange, opinions from experts or the value of consideration received in crypto assets (money, goods, or services) will be taken into account. If a taxpayer includes a crypto asset in their total income at its value on the date of acquisition and later sells it at a profit or loss, the later transaction will also be separately included in their taxable base. If crypto assets are held for more than one year and a profit is realized upon sale, they will be subject to capital gain tax and taxed at lower rates[43].

Taxpayers engaged in mining[44] must add the crypto assets they obtain from mining, at their fair value on the acquisition date, to their total income. New crypto assets with economic value resulting from airdrops[45] or hard forks[46] are also included in the

41 For types of regulations in U.S. law and their levels of enforceability, please refer to: Andrea Kramer, 'The Legal Effect of IRS Pronouncements on Virtual Currency' (JDSUPRA 2020) < https://www.jdsupra.com/legalnews/the-legal-effect-of-irs-pronouncements-25516/ > accessed 26.05.2023.

42 IRS (n 2); Aleksandra Bal, 'Stateless Virtual Money in the Tax System' [2013] European Taxation 351, 355.

43 IRS (n 2); IRS 'Frequently Asked Questions on Virtual Currency Transactions' (IRS.GOV 2022) < https://www.irs.gov/individuals/international-taxpayers/frequently-asked-questions-on-virtual-currency-transactions > accessed 19.05.2023.

44 Mining refers to the process in which individuals using computers or computer-like systems assist the functioning of crypto systems and are rewarded with crypto assets generated by the system automatically. The term "mining" is used because the newly generated crypto assets are akin to being "mined" as they enter the market for the first time.

45 Airdrop, in short, is the free distribution of a crypto asset to individuals who meet certain criteria, typically for promotional or reward purposes.

46 Forking, in short, refers to a change in the underlying structure of a crypto system. In a hard fork, a new crypto chain is

income tax base. However, the tax consequences of crypto assets obtained through staking[47] continue to remain uncertain[48]. Crypto assets paid as wages or salary will be subject to withholding tax according to general rules. The withholding tax should be applied when making payments with crypto assets to taxpayers who do not provide a tax identification number and if it is deemed necessary by the IRS[49].

If all the same types of crypto assets are sold, there is no issue. However, if only a portion of the same type of assets is sold, the question arises as to which acquisition prices should be subtracted from the sale prices to calculate the profit. Different techniques exist for accounting the inflow and outflow of goods in taxpayers' inventories[50]. In this regard, the IRS has granted taxpayers the right to choose[51]. This situation has provided taxpayers with the opportunity to manipulate the taxes they will pay. For instance, a taxpayer can calculate their profit based on a high purchase price when selling a cryptocurrency. As a result, their reported profit and the corresponding tax liability would appear lower. In legal doctrine, it has been suggested to use the average value of cryptocurrency holdings of the same type acquired at different times as the cost basis in sales. This approach aims to achieve a fairer tax outcome[52].

The regulations issued by the IRS regarding crypto assets have been criticized by users. This is because classifying crypto assets as property has resulted in significantly increased tax burdens on them. Users are now required to keep track of each individual crypto asset they acquire and sell. The situation is even more challenging for businesses engaged in crypto asset transactions. They must calculate the transaction costs for numerous small transactions, determine the resulting profits, and pay the necessary taxes accordingly[53]. The situation of crypto asset miners has become more burdensome than that of traditional miners. While traditional miners achieve income as soon as they sell the extracted minerals, crypto asset miners are considered to have earned income as soon as they acquire the crypto asset, and if they make a profit when they sell it later, they are treated as having earned income again[54]. TIGTA has also indicated the need for additional guidelines in this matter[55].

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created, resulting in new crypto assets. In a soft fork, only the system's operational structure changes.

47 Staking is a refined consensus mechanism as opposed to mining. It involves participants who hold crypto assets in the system dedicating those assets to the operation of the system and, in return, earning new crypto assets of the same type.

48 Shehan Chandrasekera, 'IRS May Not Tax Passive Income From Holding Crypto Right Away' (Forbes 2022) < https://www.forbes.com/sites/shehanchandrasekera/2022/02/03/irs-may-not-tax-passive-income-from-holding-crypto-right-away/?sh=6f5e336f799e > accessed 26.05.2023.

49 IRS (n 2); IRS (n 13).

50 Ahmad Khalid Khan and Syed Mohammad Faisal and Omar Abdullah Al Aboud, 'An Analysis of Optimal Inventory Accounting Models - Pros and Cons' 6 *3* (2018) European Journal of Accounting, Auditing and Finance Research 65, 66.

51 IRS (n 43).

52 Adam Chodorow, 'Rethinking Basis in the Age of Virtual Currencies' 36 *3* (2017) 371, 372-375

53 Roland Weekley (n 34) 110; Nika Antonikova (n 32) 436.

54 Benjamin W. Akins and Jennifer L. Chapman and Jason M. Gordon, 'A Whole New World: Income Tax Considerations of the Bitcoin Economy' 12 *1* (2014) Pittsburgh Tax Review 25, 43.

55 TIGTA, 'As the Use of Virtual Currencies in Taxable Transactions Becomes More Common, Additional Actions Are Needed

Even though the IRS issued its first administrative ruling regarding crypto assets in 2014, it has stated that those who did not declare crypto asset transactions before this date cannot escape tax penalties. However, it has also been added that taxpayers who can reasonably explain their failure to report can be exempted from these penalties[56]. This matter might seem contrary to the principle of non-retroactivity of laws. However, in this specific case, the issue involves not a law but rather a regulation like directive issued by the IRS. These directives serve as interpretive tools for the IRS, and taxpayers are not obligated to comply with them. Nevertheless, since the IRS applies the tax laws according to its own interpretation, those who do not adhere to these interpretations may need to address the disputes through resolution methods. The IRS's rationale in this situation is rooted in the broad definition of income in the U.S., where virtually all forms of earnings are subject to income tax. As a result, the IRS believes that taxpayers should declare gains obtained through crypto assets right from the start.

TIGTA, despite the IRS's issuance of the initial administrative ruling in 2014, found the efforts made regarding the taxation of crypto assets inadequate. TIGTA expressed that there is insufficient evidence to support the existence of a program that could ensure adequate coordination and identify potential tax non-compliance issues related to the taxation of crypto assets. While the IRS has clarified that miners' income is subject to taxation, the methods for taxing mining pools remain uncertain. Third-party reporting requirements have not been structured to present crypto asset transactions as a separate statistic. Although the IRS generally acknowledges these criticisms, it has indicated that it lacks sufficient budget and has other priorities to address[57].

C. Information Reporting Obligations Regarding Crypto Assets

Taxpayers will be willing to voluntarily file their tax returns as long as they are aware that the tax authority has obtained information about their tax-related activities from a third source[58]. This reality becomes even more pronounced in the case of crypto assets. This is because taxpayers who buy and sell crypto assets without being subject to any intermediary institution, such as a cryptocurrency exchange, make it very difficult for tax authorities to detect these activities. In the context of taxing crypto assets, tax authorities, especially cryptocurrency exchanges and other intermediary institutions, play a vital role in helping to identify these activities. Otherwise, expecting a taxpayer who is confident that their activities are not being monitored by

to Ensure Taxpayer Compliance' (TIGTA 2016) <https://www.oversight.gov/sites/default/files/oig-reports/201630083fr.pdf> accessed 08.10.2023.

56 IRS (n 2).

57 TIGTA (n 55) 7, 10, 12.

58 United States Government Accountability Office, (n 12) 9.

tax authorities to voluntarily file a tax return would be overly optimistic[59].

Considering this reality, the IRS has introduced reporting obligations for payment processors and those making payments with crypto assets in its regulations. When an individual or entity makes a payment of $600 or more with crypto assets to a U.S. taxpayer, this information must be reported to the IRS by including it on the relevant form. Third-party payment processors are required to report to the IRS when they facilitate crypto payments of 200 or more units or a total value of $20,000 to a taxpayer. The value of crypto assets will be calculated based on their fair market value at the time of the transaction[60]. TIGTA suggests that entities with reporting obligations such as third-party payment processors should provide information related to crypto assets in a separate file. This requirement would allow the IRS to collect data on crypto assets in a more transparent manner, enabling more effective taxation[61].

In 2016, the IRS expressed concerns about the lack of tax compliance regarding income generated from crypto assets. As a result, the IRS requested transaction data from Coinbase, which is the largest cryptocurrency exchange in the United States, for individuals involved in transactions from 2013 to 2016. However, Coinbase declined to provide this information. Subsequently, the matter was taken to the United States District Court for the Northern District of California. The court highlighted that between 2013 and 2016, approximately 14,000 individuals conducted transactions of $20,000 or more on Coinbase. Surprisingly, during the same period, only 900 individuals reported crypto-related income. This indicated a significant discrepancy and raised serious doubts about tax compliance. Consequently, the court ruled that the necessary information of individuals who conducted transactions of $20,000 or more during the specified period must be given for taxation purposes to the IRS[62].

In response, crypto asset users have viewed the IRS's approach of obtaining such data as a violation of their privacy[63]. According to tax expert Daniel Winters, the decision is misguided. He argues that the IRS lacks sufficient evidence to obtain crypto asset users' data. In 2015, when taxpayer information was similarly requested from the Swiss bank UBS, tangible evidence of $1.2 billion in unpaid taxes from

59 Omri Marian, 'A Conceptual Framework for the Regulation of Cryptocurrencies' 82 (2015) University of Chicago Law Review Dialogue 53, 64; Aleksandra Bal, 'Should Virtual Currency Be Subject to Income Tax?' (SSRN 2014) < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2438451 > accessed 27.05.2023.

60 IRS (n 2).

61 TIGTA (n 55) 12.

62 *United States v. Coinbase Inc.,* [2017] United States District Court Northern District of California [2017] 17-cv-01431-JSC.

63 According to the opposing view, the Court has struck a balance between the enforcement of taxation authority and taxpayers' privacy by ruling that only tax-related information of taxpayers engaging in transactions above a certain threshold should be provided to the IRS. Q.v.: Mollie T. Adams and William A. Bailey, 'Emerging Cryptocurrencies and IRS Summons Power: Striking the Proper Balance between IRS Audit Authority and Taxpayer Privacy' 19 *1* (2021) The ATA Journal of Legal Tax Research 61.

US taxpayers' accounts was provided. In contrast, in the Coinbase case, taxpayer information was obtained without such concrete evidence of tax evasion. Instead of taking this route, Winters suggests that the IRS could achieve tax compliance naturally by changing the classification of crypto assets from property to foreign currency under the US federal income tax system. This change would automatically lead to tax compliance[64].

Based on the information obtained, the IRS has sent notices to taxpayers suspected of engaging in crypto asset transactions. Taxpayers who receive these notices are required to declare any income earned from crypto asset transactions that they haven't previously file. Additionally, the question of whether taxpayers have engaged in crypto asset transactions has been added to the standard forms that taxpayers commonly respond to[65]. According to the data from 2018, informative letters were sent to 10,000 taxpayers to notify them about their tax obligations related to crypto assets[66].

These efforts were deemed insufficient, and legal regulations continued to be pursued to ensure tax compliance with crypto asset transactions. Under the regulation that was enacted on November 15, 2021, all institutions that facilitate crypto asset transactions, such as exchanges and digital wallet providers, are subject to the same reporting requirements as traditional brokerage firms. With this regulation, the IRS will have access to the data of crypto asset transactions conducted through domestic brokerage firms in the US. As a result, the IRS's ability to act against those who earn income from crypto assets but fail to report it has been significantly strengthened. It is anticipated that this regulation will lead to the collection of an additional $28 billion in tax revenue[67].

D. Alternative Proposals in the Doctrine

In the US tax law doctrine, alternative tax regimes have been proposed in relation to crypto assets. One of these proposals aims to ensure tax compliance with crypto assets. According to this proposal, tax-paying sellers or service providers who accept payments in crypto assets should be held responsible for obtaining the identity of the person making the crypto asset payment. These taxpayers should be obligated to collect a special tax from those who prefer to make anonymous payments. Individuals who want to make payments with crypto assets should be exempt from this special tax if they disclose their identity directly to the seller or through the application they

64 Austin Elliott, 'Collection of Cryptocurrency Customer-Information: Tax Enforcement Mechanism or Invasion of Privacy?' 16 (2017-18) Duke Law & Technology Review 1, 12, 13, 16.

65 Mark A. Luscombe, 'IRS Getting Serious about Virtual Currencies' 97 *12* (2019) 3, 4.

66 TIGTA (n 17) 22.

67 Tom Geraghty and Kali McGuire, 'Infrastructure bill, including crypto "broker" rules, becomes law', (DLA PIPER 2021) < https://www.dlapiper.com/en/us/insights/publications/2021/11/infrastructure-bill-including-crypto-broker-rules-becomes-law/ > accessed 18.05.2023.

use. The tax imposed on crypto asset payments should be high enough to incentivize individuals to disclose their identities. As a result, individuals would be encouraged to disclose their crypto asset holdings, leading them to pay the applicable taxes associated with these assets[68].

Another proposal suggests treating crypto assets similarly to gift "miles" earned from expenses like airplane tickets or travel. In the US federal income tax system, these miles, though debated within the doctrine, are not generally considered taxable until they are converted into dollars[69]. Just as miles are not generally considered taxable until they are converted into dollars, the same principle could be applied to crypto assets. Income and inclusion in the tax base would occur when the crypto asset is converted into dollars[70]. Freeing crypto assets from taxation until they are converted to dollars would make things easier for both taxpayers and tax authorities and would also not discourage the use of crypto assets[71].

In addition, taxing crypto assets in a manner like foreign currencies until they are converted into dollars would bring advantages for both the IRS and taxpayers. U.S. income taxpayers are not burdened with tax responsibilities for each transaction they conduct with foreign currencies abroad. Instead, an individual is only subject to taxation if they have gained more than $200 in profit during the transition from U.S. dollars to foreign currency and back. The $200 portion is exempt from taxation. This way, taxpayers are relieved from the obligation of keeping records and paying taxes for each transaction they make. In fact, initially, foreign currencies were treated as "personal property" under US income tax law and went through the same burdensome tax regime that crypto assets currently face. However, due to contrary judicial precedents and the significant burden it placed on both taxpayers and the IRS, a tax reform was implemented in 1986, resulting in the current treatment of foreign currencies[72].

Conclusion

Over the years, the increasing presence of cryptocurrencies, which initially started as a tool used solely on the dark web, has begun to influence every aspect of life, thanks to the innovative information technologies at its core. As a result, projects

68 Omri Marian (n 59) 65.

69 Jeffrey A. Mankin and Jeffrey J. Jewell, 'Frequent Flyer Miles as Company Scrip: Implications on Taxation' 7 *1* (2015) Business Studies Journal 14.

70 *Charley v. Commissioner IRS* [1996] United States Court of Appeals, Ninth Circuit. [1996] No. 94-70043; "Casino chips" are taxed in a manner similar to airline miles. It has been suggested that a similar method could be applied to the taxation of crypto assets. "Casino chips" or "casino tokens" are payment instruments often used in casinos, and they are not immediately taxed when acquired. Taxation usually occurs when these chips or tokens are converted into cash or used. Similarly, crypto assets could potentially be subject to taxation when they are earned or spent, following a similar logic. This approach suggests that crypto assets should be taxed only when they are acquired or spent, rather than immediately upon receipt. Qv.: Nika Antonikova (n 32) 444, 449.

71 Roland Weekley (n 34) 132.

72 Nika Antonikova (n 32) 450.

in this field have provided significant gains to investors, payments have started to be made through crypto systems without being subject to public oversight, and new sources of income have emerged. All these factors have given rise to taxation challenges, exacerbating the issues that the digital economy has brought to tax systems in general. Being one of the first countries where these assets gained widespread use, the U.S. has been a leader in regulatory efforts and has implemented substantial tax regulations in this area. For countries like Türkiye that have yet to establish tax regulations in this field, it's possible to gain empirical evidence from the U.S.

While the regulatory measures introduced by the IRS have garnered more criticism than support, they have also provided valuable insights into ensuring tax compliance for individuals engaging in crypto asset transactions. The IRS's classification of crypto assets as property has resulted in a substantial burden of formal tax obligations for taxpayers, hindering voluntary tax compliance. In response, the IRS obtained crypto asset transaction information from the largest cryptocurrency exchange market and sent letters to taxpayers regarding their tax obligations.

However, relying solely on information from one exchange market was deemed insufficient. Therefore, in November 2021, a legal obligation for all crypto asset intermediaries to provide information was enacted. This move indicates the intent to address unreported crypto asset transactions using third-party data. Nevertheless, the current IRS practice requires taxpayers to record and report even the smallest transactions as taxable events, making tax compliance challenging. Instead, implementing measures that reduce formal obligations related to crypto asset transactions would encourage voluntary tax compliance. If individuals feel compelled to comply with taxes, they might consider refraining from engaging in crypto asset transactions, potentially stifling innovation in this evolving field.

From the perspective of U.S. law, treating crypto assets as foreign currency would be beneficial for both taxpayers and the IRS. In this scenario, individuals would only be required to report transactions when they exchange dollars for crypto assets and when they convert crypto assets back to dollars. Transactions conducted using crypto assets would fall outside the scope of the tax system. Only gains exceeding $200 would need to be reported on tax returns. In fact, foreign currencies were initially treated as property under U.S. law, but due to legal and practical challenges, the current system was adopted in 1986.

By adopting a similar approach for crypto assets, both taxpayers and the IRS would find the tax compliance process simplified. This approach would lessen the formal tax obligations associated with every crypto asset transaction, which in turn could encourage voluntary tax compliance. It's worth noting that foreign currency transactions under this model would serve as a precedent for the treatment of crypto

assets, allowing for smoother integration into the existing tax framework.

The income tax treatment applied to crypto assets in the U.S. could be a precedent for tax regulations that may be implemented in Türkiye. As seen in the U.S., burdening taxpayers who engage in crypto asset transactions with excessive formal obligations can make voluntary tax compliance more challenging. Assigning responsibilities to institutions facilitating crypto asset transactions would reinforce the Revenue Administration of Türkiye for taxation purposes. While it is known that the Ministry of Treasury and Finance in Türkiye obtains certain information from cryptocurrency exchanges, it is essential that this information is acquired in a consistent and tax-appropriate manner.

Taking the U.S. approach a step further, these intermediaries could potentially be assigned not only the responsibility of providing information but also the duty of withholding taxes as tax agents. However, the principle of tax neutrality requires that the applied tax rates should not necessitate significant changes in individuals' investment strategies and general lifestyle habits. The imposed tax could take the form of a withholding of income tax or a low-rate transaction tax similar to the Banking and Insurance Transactions Tax, depending on the transaction volume. Before implementing any regulation, seeking input from experienced crypto asset users and intermediary institutions will be a crucial step while conducting a regulatory impact analysis.

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