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### A New Framework for Taxing Cryptocurrencies

Reuven S. Avi-Yonah

*University of Michigan Law School, [aviyonah@umich.edu](mailto:aviyonah@umich.edu)*

Mohanad Salaimi

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# A New Framework for Taxing Cryptocurrencies

REUVEN AVI-YONAH\*  
MOHANAD SALAIMI\*\*

## Abstract

This Article explores the tax law challenges associated with the taxation of cryptocurrencies and offers proposals to address such challenges. The Article addresses the proper tax treatment of different cryptocurrency transactions and activities. It examines various aspects associated with the taxation of cryptocurrency through its life cycle, starting from earning cryptocurrency, through its disposal or exchange. The Article also examines the tax treatment of two special crypto events, hard forks and airdrops.

Specifically, this Article describes a proposal to tax cryptocurrencies based on their unique features. It argues that various ways of earning or receiving crypto tokens (for example, mining in proof-of-work (PoW) protocols like Bitcoin and staking in proof-of-stake (PoS) protocols like Ether) generate taxable income. The Article argues that the U.S. framework for taxing cryptocurrency is unadministrable and ignores the defining feature that distinguishes crypto from other assets: its volatility. Because of its volatility, crypto should not be taxed until tokens are exchanged for real-world items like fiat currency or goods and services. Finally, the Article argues that when crypto tokens are exchanged for fiat currencies or goods and services, they should be treated as foreign currency if held for less than one year.

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\*Irwin I. Cohn Professor of Law, University of Michigan Law School.

\*\*S.J.D. (2023), University of Michigan Law School.

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## I. Introduction

In less than a decade, the term “cryptocurrency” has astonishingly evolved from a sophisticated term used by technologists or crypto-enthusiasts, to becoming a mainstream term as a result of its vast pervasiveness and popularity.<sup>1</sup> The emergence of cryptocurrency in the last decade has already affected the finance world. The technology underlying crypto has developed and will continue to develop drastically over the coming years, likely making itself adaptable to multiple aspects of economic activities.<sup>2</sup>

The U.S. is among the countries that host the highest concentration of cryptocurrency and Bitcoin trading volume in the world.<sup>3</sup> Moreover, the U.S. is home to numerous cryptocurrency and blockchain related corporations, and holds the record for the highest number of Bitcoin ATMs in the world.<sup>4</sup>

<sup>1</sup> Gary Marchant et al., *International Governance of Cryptoassets: Whether, Why, What and Who?*, 53 INT’L LAW. 417 (2020).

<sup>2</sup> ESWAR S. PRASAD, THE FUTURE OF MONEY, HOW THE DIGITAL REVOLUTION IS TRANSFORMING CURRENCIES AND FINANCE 106 (2021).

<sup>3</sup> According to a recent study by Pew Research, the number of American adults who have traded, invested or used cryptocurrencies has grown to 16%, more than 40 million Americans. Andrew Perrin, *16% of Americans Say They Have Ever Invested In, Traded or Used Cryptocurrency*, PEW RESEARCH CENTER (Nov. 11, 2021), <https://www.pewresearch.org/fact-tank/2021/11/11/16-of-americans-say-they-have-ever-invested-in-traded-or-used-cryptocurrency/> [https://perma.cc/Q86Q-7U5P].

<sup>4</sup> ANDREW HAYNES & PETER YEOH, CRYPTOCURRENCIES AND CRYPTOASSETS: REGULATORY AND LEGAL ISSUES 71 (2020).

The rapid development of cryptocurrencies has drawn the attention of governments, financial regulators, and scholars.<sup>5</sup> Despite the attention, there is a lack of scholarly work examining crypto transactions from a tax perspective. This Article attempts to fill this gap.

This Article addresses the proper tax treatment of different cryptocurrency transactions and activities. Discussing the proper tax treatment of cryptocurrencies requires one to first understand its function and underlying technology. Part II of the Article provides a broad overview of cryptocurrency, its function, and a general description of the blockchain technology it relies on.

The emergence of cryptocurrency presents new and growing tax law challenges. Part III addresses two primary challenges associated with the taxation of cryptocurrencies: the administrative and regulatory challenges. Addressing these challenges aids in offering a proper tax policy regarding the taxation of cryptocurrencies. Administrative challenge for tax authorities occurs when tracking crypto transactions becomes far too difficult. This challenge stems from the two possible attributes of cryptocurrency: the volatility of cryptocurrencies' value and the anonymity of cryptocurrency transactions. Addressing the administrative challenge requires using enhanced technologies to enforce tax law, in addition to enhancing the reporting requirements for crypto transactions. A regulatory challenge arises when the taxable basis of a transaction becomes uncertain. Part III explores how current U.S. tax guidance, as provided by the Service, does not address the administrative challenge, nor does it adopt the proper regulatory policy. The rule adopted by the Service in 2014 (Notice 2014-21, 2014-16 IRB 938)—a long time ago in the evolution of crypto—is to treat crypto like any other asset, so that every transaction in which crypto is exchanged for other crypto or used to acquire goods, services, or fiat money becomes a taxable realization event. This treatment is problematic, as it ignores a defining characteristic of cryptocurrency, which is its volatility. Further, the Service position is unadministrable.

After discussing the general tax law challenges associated with the taxation of cryptocurrencies, the Article goes through the life cycle of cryptocurrencies and offers a tax treatment for different crypto activities.

Part IV discusses the taxation of earning cryptocurrencies, including earning cryptocurrency through purchasing them, receipt as a payment for goods or services, and as compensation for employment. The tax treatment of crypto when it is earned is critical to the determination of basis and character of income upon realization. Moreover, Part IV addresses the tax treatment of earning crypto through two other primary means: mining and staking activities. More specifically, this part addresses the income characterization of the block rewards and staking rewards, which are crypto

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<sup>5</sup> HAYNES & YEOH, *supra* note 4, at 69.

rewards resulting from using two different consensus mechanisms, Proof-of-Work and Proof-of-Stake, respectively.

Part V discusses the taxation of cryptocurrencies upon disposal or exchange. The authors argue that cryptocurrency should be taxed only when it meets the “real-world economy”—*i.e.*, when it is exchanged for “real-world” value—when crypto is exchanged either for goods or services, fiat money (legal tender), or other non-crypto assets. This means that crypto-to-crypto exchanges should be treated in a tax-free manner. This proposal will ease the administrative burden, will greatly simplify the taxation of cryptocurrencies, and will promote compliance. Taxing cryptocurrency activity that is connected to the real-world economy should be based on the principle of tax neutrality, which means that taxation should follow the nature and use of the cryptocurrency in question. To achieve such neutrality, the authors propose a bifurcated tax treatment: when cryptocurrencies are held for a short period (under a year) and are used as a tool for payment to acquire goods or services, their function is similar to the function of money and regular fiat currencies. Therefore, the tax treatment of this category should be subjected to the rules for foreign exchange under the Internal Revenue Code (the “Code”). When cryptocurrencies are held for more than a year, their function is similar to an investment. Thus, cryptocurrencies in this category should be treated as property, and the current Service guidance should apply. Further, Part V addresses other possible classifications of cryptocurrencies which can be relevant in determining the tax treatment under some tax provisions, such as classification of crypto as a security or as a commodity.

Part VI addresses the tax treatment of two special crypto events, hard forks and airdrops, which may potentially create new taxable events for cryptocurrency holders. These crypto events emerged as a result of the increased use of cryptocurrencies and the development of blockchain technology. The authors argue that hard forks should be treated as a software upgrade which does not constitute a taxable event in the hands of the taxpayers. Also, the authors argue that the tokens received as part of airdrops should not be taxed when they received, but only when they are exchanged or disposed of later.

## II. General—The World of Cryptocurrencies

Discussing the proper tax treatment of cryptocurrencies, requires one first to understand its function, the technology underlying it, its trading volume, and its current role and future potential effect on the larger economy. This part provides a general description of cryptocurrency’s function and the technology it relies on.

### A. General—What is Cryptocurrency?

Cryptocurrency<sup>6</sup> is a form of digital money designed to be used over the internet and transfer value online, all without the need of a middleman like a bank or a payment processor.<sup>7</sup> Cryptocurrencies are decentralized, *i.e.*, they are not issued or controlled by any government or other central authority. Cryptocurrencies are managed by peer-to-peer networks of computers that run free, open-source software, known as the blockchain technology.<sup>8</sup> In general, a crucial element underlying cryptocurrencies is the mechanism of validating transactions in a decentralized manner, with no central or trusted authority involved, and with an immutable record of transactions.<sup>9</sup>

There are numerous types of cryptocurrencies which may be classified under distinct criteria. For example, cryptocurrencies may be classified based on whether they are connected to the real-world economy or not. Under this classification, cryptocurrencies are divided to two categories:

The first category of cryptocurrencies is those used only in the virtual world and are not connected to the real-world economy. An example is exchanging virtual content used in certain digital platforms such as virtual games.<sup>10</sup>

The second category of cryptocurrencies is the one which meets the real-world economy. These cryptocurrencies can be a substitute for real currency in, for example, purchasing goods or services. This Article will address the latter category, which includes the major cryptocurrencies such as Bitcoin and Ether. Bitcoin constitutes the first cryptocurrency; it was launched in 2008 and remains the most recognized cryptocurrency. Today there are thousands

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<sup>6</sup> The name cryptocurrency is a combination of cryptography and currency. Cryptography is the process of converting legible information into an almost uncrackable code, to track purchases and transfers. Cryptography is used to secure the transactions as it involves the encryption of a sender's message and the decryption of the message by the recipient. Nafis Alam & Abdolhossein Zamani, *The Regulation of Fintech and Cryptocurrencies*, in *FINTECH IN ISLAMIC FINANCE: THEORY AND PRACTICE* 163 (Umar A. Oseni & S. Nazim Ali eds., 2019).

<sup>7</sup> See *What is a Cryptocurrency?*, COINBASE, last accessed Sept. 27, 2022, <https://www.coinbase.com/learn/crypto-basics/what-is-cryptocurrency> [<https://perma.cc/4C8G-GP5R>]; *Welcome to Crypto*, BINANCE ACADEMY, last accessed Sept. 27, 2022, <https://academy.binance.com/en/start-here> [<https://perma.cc/BF29-RLXJ>] (last visited Sept. 27, 2022).

<sup>8</sup> *What is a Cryptocurrency?*, *supra* note 7.

<sup>9</sup> PRASAD, *supra* note 2, at 119.

<sup>10</sup> For literature addressing the taxation of virtual currencies, see Bryan T. Camp, *The Play's the Thing: A Theory of Taxing Virtual Worlds*, 59 *HASTINGS L.J.* 1, 2, 45 (2007); Leandra Lederman, "Stranger than Fiction": *Taxing Virtual Worlds*, 82 *N.Y.U. L. REV.* 1620, 1625 (2007); Adam S. Chodorow, *Ability to Pay and the Taxation of Virtual Income*, 75 *TENN. L. REV.* 695, 743-52 (2008); Theodore P. Seto, *When Is a Game Only a Game?: The Taxation of Virtual Worlds*, 77 *U. CIN. L. REV.* 1027 (2009); Leandra Lederman, *EBay's Second Life: When Should Virtual Earnings Bear Real Taxes?*, 118 *YALE L.J. Pocket Part* 136, 140 (2009); Steven Chung, *Real Taxation of Virtual Commerce*, 28 *VA. TAX REV.* 733, 763 (2009).

of other cryptocurrencies that vary significantly in their characteristics and underlying functions.<sup>11</sup> Bitcoin, as will be discussed shortly, remains the largest, most dominant, and best-known cryptocurrency, with the biggest market capitalization by far.<sup>12</sup>

## B. *Blockchain*

Blockchain is the technology powering cryptocurrencies like Bitcoin and Ether. At its most basic, a blockchain is a list of transactions available to the public to view and verify.<sup>13</sup> A cryptocurrency blockchain is similar to bank's balance sheet or ledger.<sup>14</sup> The Bitcoin blockchain, for example, contains a record of each instance where Bitcoin was sent or received.

The list of transactions contained in the blockchain is fundamental for most cryptocurrencies, because it enables secure payments to be made between people who don't know each other without having to go through a third-party verifier. No company, government or any third party controls the blockchain, and anyone can participate in it.<sup>15</sup>

Blockchain's transparency is reflected in the fact that once a block of transactions is validated and added to the blockchain, the transaction can easily be confirmed by any participant in the network. After a transaction is validated through the consensus mechanism<sup>16</sup>, it cannot be changed, erased or modified in the blockchain record.<sup>17</sup>

## C. *Bitcoin*

In 2008, Satoshi Nakamoto, the mysterious creator of Bitcoin, published the seminal eight-page paper entitled "Bitcoin: A Peer-to-Peer Electronic Cash System." This paper offered a clear thesis: proposing that a "purely peer-to-peer version of electronic cash would allow online payments to be sent

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<sup>11</sup> One estimate puts the number of cryptocurrencies at around 6,700, with a total market capitalization of a \$2.5 trillion USD as of Oct. 25, 2021. Bitcoin, Ethereum, Binance Coin, Cardano, Solana, Ripple, Polkadot are amongst the leading names as of 2021. *Cryptocurrency- a New Dimension in the Global Economy*, FINANCIAL EXPRESS (Nov. 11, 2021), <https://www.financialexpress.com/economy/cryptocurrency-a-new-dimension-in-the-global-economy/2367447/> [<https://perma.cc/J6AC-NPB9>].

<sup>12</sup> During 2020 and through the first quarter of 2021, it accounted for roughly two-thirds of the market capitalization of all cryptocurrencies put together. See PRASAD, *supra* note 2, at 109, 149.

<sup>13</sup> *What is a Blockchain?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-is-a-blockchain> [<https://perma.cc/3VVY-VUE4>] (last visited Sept. 27, 2022).

<sup>14</sup> *What is a Cryptocurrency?*, *supra* note 7.

<sup>15</sup> *What is a Blockchain?*, *supra* note 13.

<sup>16</sup> Consensus mechanisms allow distributed systems (networks of computers) to work together and stay secure. As part of the emergence of cryptocurrency, new consensus mechanisms have been invented to allow crypto systems, such as Bitcoin or Ethereum, to agree on the state of the network.

<sup>17</sup> PRASAD, *supra* note 2, at 128.



directly from one party to another without going through a financial institution.”<sup>18</sup>

Bitcoin has succeeded in its intention to be a medium of exchange that facilitates the performance of financial transactions outside the domain of the government and traditional institutions, while relying only on the digital identities of transacting parties.<sup>19</sup> The Bitcoin blockchain, as envisioned in Nakamoto’s paper, allows Bitcoin to accomplish two essential objectives underpinning its basic role: validation and immutability of transactions without relying on a trusted third party.

Two years after publishing Nakamoto’s paper, the first commercial Bitcoin transaction took place when two pizzas were purchased for 10,000 Bitcoin, roughly \$260 million today.<sup>20</sup> In the following years, Bitcoin started to be used to purchase goods and services, traded on online exchanges for fiat currency, including the U.S. dollar.<sup>21</sup> Today, more than \$6 billion in Bitcoin transactions occur every day, and tens of millions of Americans own some form of cryptocurrencies.<sup>22</sup> As will be elaborated on later in this Article, Bitcoin, over the last few years, is more readily perceived not only as a medium of exchange, but also as a store of value, earning the key essential characteristics of conventional fiat money, especially fungibility.<sup>23</sup> But Bitcoin faces its own challenges.

These challenges include its inability to secure the anonymity of its users, its volatile price, its relatively high transaction costs, and the limited functionality of the Bitcoin blockchain. The market response to these attributes of Bitcoin has been the emergence and proliferation of new cryptocurrencies that attempt to address the different problems associated with the ownership and usage of Bitcoin.<sup>24</sup>

#### D. *Emergence of New Cryptocurrencies after Bitcoin*

As noted, the new types of cryptocurrencies have been designed to fix specific problems associated with Bitcoin:

- (1) Developing better consensus mechanisms (*e.g.*, Ether, the second most valuable cryptocurrency, which runs on the Ethereum

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<sup>18</sup> SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM (2008), <https://bitcoin.org/bitcoin.pdf> [<https://perma.cc/TS98-BAVL>].

<sup>19</sup> See PRASAD, *supra* note 2, at 107.

<sup>20</sup> The first Bitcoin was created in 2009 after Nakamoto released the Bitcoin Network source code.

<sup>21</sup> 53A AM. JUR. 2d *Money* § 6, Westlaw (database updated May 2022).

<sup>22</sup> Brian Armstrong, *Coinbase CEO: We Need a New Approach to Regulating Crypto*, WALL ST. J. (Oct 14, 2021), <https://www.wsj.com/articles/new-approach-regulating-crypto-bitcoin-coinbase-armstrong-digital-asset-policy-proposal-11634226117> [<https://perma.cc/Q77L-D86X>].

<sup>23</sup> People started to put their savings in Bitcoin and investors bet on its price. Moreover, there are derivatives which are linked to its price. See PRASAD, *supra* note 2, at 108.

<sup>24</sup> PRASAD, *supra* note 2, at 109.

blockchain, is in the process of moving from the Proof of Work mechanism, a non-environmental friendly mechanism due to its relatively high energy consumption, to the Proof of Stake mechanism. These mechanisms are elaborated on later in Part IV).<sup>25</sup>

(2) Ensuring stable valuation (*e.g.*, Stablecoins which can be backed by fiat currencies or by assets such as gold and commodities. For example, Meta’s digital currency, Diem, was designed to be a Stablecoin, whose value relies on a basket of major fiat currencies).<sup>26</sup>

(3) Providing more secure anonymity (*e.g.*, Monero and ZCash, designed to not publicly display information associated with a particular transaction in their network).<sup>27</sup>

(4) Expanding the functionality of the blockchain (*e.g.*, Smart Contracts which are self-executing computer programs that perform pre-defined tasks based on a predetermined criteria).<sup>28</sup>

In addition to the different types of crypto listed above, the last few years have witnessed the emergence of “Non-fungible Tokens”, or “NFTs,” which are unique cryptographic tokens that exist on a blockchain and cannot be replicated. NFTs are often used to represent ownership of real-world items, like artwork and real-estate.<sup>29</sup>

### III. Cryptocurrencies—Administrative and Regulatory Challenges and Current U.S. Tax Treatment

As already discussed, this Article attempts to examine the tax law aspects of cryptocurrencies, and specifically to set forth the proper tax policy that should apply to crypto activities. The emergence of cryptocurrency presents new and growing tax law challenges. Of these, administrative and regulatory challenges constitute the two primary challenges. Thus, offering a proper tax policy requires addressing these two main challenges. This Part discusses in detail the administrative and regulatory challenges associated with taxing cryptocurrencies. Also, this Part explains how the current U.S. tax guidance regarding the taxation of cryptocurrencies, as provided by the Service, does not address those administrative challenges, nor does it adopt the right regulatory policy.

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<sup>25</sup> PRASAD, *supra* note 2, at 152–53.

<sup>26</sup> PRASAD, *supra* note 2, at 155.

<sup>27</sup> PRASAD, *supra* note 2, at 158.

<sup>28</sup> PRASAD, *supra* note 2, at 160.

<sup>29</sup> Rakesh Sharma, *Non-Fungible Token (NFT): What it Means and How It Works*, INVESTOPEDIA, <https://www.investopedia.com/non-fungible-tokens-nft-5115211> [<https://perma.cc/G5KL-ALHE>] (last updated Apr. 6, 2023).

### A. *Administrative Challenge*

Administrative challenge for tax administrations occurs when tracking crypto transactions becomes difficult. This challenge stems from the two possible attributes of cryptocurrency: the volatility of cryptocurrencies' value and the anonymity of cryptocurrency transactions. Addressing the administrative challenge requires using enhanced technologies to enforce tax law, in addition to enhancing the reporting requirements for crypto transactions.

#### 1. *Volatility of Cryptocurrencies' Value*

Cryptocurrencies can be (and often are) very volatile. The value of cryptocurrencies such as Bitcoin<sup>30</sup> and Ether<sup>31</sup> fluctuates enormously, sometimes by the minute or even the second.<sup>32</sup> What's more, when compared to stocks or fiat currencies, cryptocurrencies do not hold an inherent value.<sup>33</sup> This tends to make cryptocurrencies even more volatile and subject to speculation than stocks and other investments.<sup>34</sup>

Volatility poses another obstacle to tax authorities attempting to tax crypto transactions and determine the precise taxable income for a specific taxpayer. Taxpayers might find it difficult to make an accurate filing of a tax return due to the aforementioned high volatility. This is reflected by the difficulty in tracking crypto transactions because taxpayers and the Service would have a

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<sup>30</sup> On Christmas Day 2015, one Bitcoin was trading for \$419. About two years later, on December 15, 2017, the value of a Bitcoin was \$19,650. On Christmas day of that year, the price fell to \$15,075 (losing about one quarter of its value in just ten days). On December 15, 2018, a Bitcoin was trading at \$3,183. By Christmas 2020, the price had increased to \$24,400. All the above prices are approximate, as they often vary significantly within the course of a day or even a few hours. See PRASAD, *supra* note 2, at 131.

<sup>31</sup> A unit of Ether was trading at \$8 on January 1, 2017, and surged to \$1,433 on January 12, 2018. Within three months, it fell to \$385, then one month later it increased back to \$812, and by the end of the year its value fell to \$134. In late May 2021, a unit of Ether was worth about \$2,500. See PRASAD, *supra* note 2, at 132.

<sup>32</sup> Peter Santilli & Corrie Drieusch, *How More Than \$1 Trillion of Crypto Vanished in Just Six Months*, N.Y. TIMES (May 13, 2022), <https://www.wsj.com/articles/how-more-than-1-trillion-of-crypto-vanished-in-just-six-months-11652434202> [<https://perma.cc/V7M8-J7RW>].

<sup>33</sup> On why crypto is different than other assets, see *Be Grateful for Crypto's Well-Timed Meltdown*, BLOOMBERG (July 8, 2022) <https://www.bloomberg.com/opinion/articles/2022-07-08/crypto-crash-comes-at-an-opportune-moment> [<https://perma.cc/3G7Y-UCAQ>] ("Crypto is not an asset class. Stocks and bonds have cash flows. Commodities have industrial uses. Digital tokens have nothing but sentiment. Someday, they might prove useful as representations of assets, making transactions cheaper and more reliable.").

<sup>34</sup> Marchant et al., *supra* note 1, at 429.

very hard time understanding and calculating the actual tax liability due to the fluctuating values.<sup>35</sup>

However, volatility is not present in all cryptocurrencies. Stablecoin, for example, is a digital currency pegged to a relatively stable reserve asset, like the U.S. dollar or gold.<sup>36</sup>

## 2. *Anonymity of Cryptocurrency Transactions*

The confidentiality of the transacting party is one of the main features of cryptocurrency transactions. Cryptography makes it possible for crypto transactions to be pseudonymous in the sense that each individual in a specific network has pairs of digital keys, one public and one private. Each digital coin is identified by these two attributes – a public key and the corresponding private key.<sup>37</sup> These public and private keys constitute the vital elements of anonymous digital payment systems.<sup>38</sup> Once someone encrypts a message using a specific individual's public key, the only individual who can decode that message is the one who has the private key corresponding to that specific public key.<sup>39</sup> Thus, for a given transaction, only the digital identities of the two transacting parties are publicly available on the blockchain.<sup>40</sup> Because of the public ledger features, anyone can check the public keys of both the sender and the recipient to check the chain of ownership, but not their private keys.<sup>41</sup>

The inability to track the identity of the transacting parties makes it difficult for the Service to track these transactions and identify the relevant taxpayers to determine whether taxpayers may be underreporting taxable income from transactions in cryptocurrencies. Some observers have even

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<sup>35</sup> OECD, TAKING VIRTUAL CURRENCIES: AN OVERVIEW OF TAX TREATMENTS AND EMERGING TAX POLICY CONSIDERATIONS 41 (2020) (The “2020 OECD Report”) [hereinafter 2020 OECD REPORT] (explaining the administrative and practical difficulties associated with the volatility of cryptocurrencies: “There are practical difficulties due to the high fluctuation in value even across a short time frame, that records may not be kept with the necessary precision, and that exchange platforms may have different prices for the same virtual currency. In addition, valuation relies on complex records of purchase and disposal prices and it may prove challenging for taxpayers to keep pricing information over a long-time period, especially if their wallets include various types of virtual currencies or the same types of virtual currencies are bought at different times for different prices. From a tax perspective, valuation is important on receipt of a new token, whether via mining, forging, exchange or gift, in order to calculate either the income immediately taxable (in the event that the acquisition occasions a taxable event) or as the basis, or deductible amount, when calculating the capital gains on disposal.”).

<sup>36</sup> *What is a Stablecoin?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-is-a-stablecoin> [<https://perma.cc/F7K3-PBJL>] (last visited Sept. 27, 2022).

<sup>37</sup> PRASAD, *supra* note 2, at 111.

<sup>38</sup> PRASAD, *supra* note 2, at 111.

<sup>39</sup> PRASAD, *supra* note 2, at 111.

<sup>40</sup> PRASAD, *supra* note 2, at 137.

<sup>41</sup> PRASAD, *supra* note 2, at 111.

argued that crypto is some kind of glorified tax haven that is most useful for tax evasion and other illegal activities. The argument is that because crypto is anonymous and there are no intermediaries (banks, brokers) involved in transmitting it, it can more easily be used for illegal activities.<sup>42</sup>

However, while the concern for tax evasion due to anonymity does exist, especially with the emergence of new cryptocurrencies which attempt to guarantee anonymity for their users,<sup>43</sup> this concern is not particular to cryptocurrencies. Tangible fiat currencies have always been anonymous, and the inability to trace the identities of individuals using cash to fund illicit activities has been always a challenge for tax authorities.<sup>44</sup> Consider, for example, tips. They are notoriously hard to tax because they are frequently paid in cash, and small amounts of cash are essentially untraceable (and there is the additional difficulty of tracing large amounts of cash outside the U.S.). But tips in cryptocurrency can easily be traced and taxed based on the public ledger. The same observation can be made about many small businesses that receive funds for goods and services in cash or checks. As long as the Service does not require information reporting from banks on regular business accounts, those businesses are difficult to audit because the transactions are below the \$10,000 limit that triggers bank reporting. A business earning crypto may well be easier to audit.

Moreover, as recently demonstrated by a sanctions avoidance criminal case brought by the U.S. Department of Justice,<sup>45</sup> no form of crypto is truly anonymous to the government, which (presumably) has the resources to crack any code. Second, because crypto transactions are public by definition, they should actually be easier to audit than transactions using fiat currencies.<sup>46</sup>

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<sup>42</sup> Marian has argued that cryptocurrencies could replace tax havens for tax evaders who traditionally executed their tax evasion through the use of offshore bank accounts, and thus, might opt out of traditional tax havens in favor of cryptocurrencies. He also argued that the combination of anonymity with decentralization (the lack of intermediaries) may make crypto more attractive than tax havens that rely only on secrecy (and which have been the target of numerous enforcement efforts from FATCA onward). Omri Marian, *Are Cryptocurrencies Super Tax Havens?*, 112 MICH. L.REV. 38 (2013).

<sup>43</sup> For example, Monero and Zcash.

<sup>44</sup> Alex Anker, *Debugging IRS Notice 2014-21: Creating a Viable Cryptocurrency Taxation Plan*, 85 BROOK. L. REV. 883, 892 (2020). Tangible fiat currency still facilitates the majority of illegal transactions.

<sup>45</sup> Memo. Op., *In re Criminal Complaint*, No. 22-mj-00067-ZMF (D.D.C. 2022).

<sup>46</sup> Magistrate Judge Zia M. Faruqui finds U.S. sanctions laws apply to \$10 million in Bitcoin sent by American citizen to a country blacklisted by the U.S. *Id.* In the ruling, the judge called cryptocurrency's reputation for providing anonymity to users a myth: "investigators were able to use sophisticated blockchain analysis tools to trace that person's actions, since despite cryptocurrencies' anonymizing features, all transactions to individual accounts are recorded in public ledgers that can be amassed into large data sets." Spencer S. Hsu, *U.S. Issues Charges in First Criminal Cryptocurrency Sanctions Case*, WASH. POST (May 16, 2022),

Crypto can even be used to combat some forms of tax fraud such as missing trader intraCommunity VAT fraud, which has cost EU governments (and the United Kingdom) billions in tax revenue.<sup>47</sup>

Thus, given its special features, the anonymous concern associated with taxing cryptocurrency can be mitigated by using enhanced technologies to enforce the tax law and by enhancing the reporting requirements to the Service with respect to crypto transactions.<sup>48</sup>

### 3. Possible Solutions to Addressing the Administrative Challenge

a. *Using Enhanced Technologies to Enforce the Tax Law.* With the development of the technology related to cryptocurrency, the main administrative challenge from this perspective for the Service and other tax administrators is in finding the proper technology to enforce the tax law.<sup>49</sup>

Using the proper technology is necessary to reduce the administrative difficulties associated with taxing crypto due to its public ledger feature, which could mitigate the anonymity concern.<sup>50</sup> Transactions

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<https://www.washingtonpost.com/dc-md-va/2022/05/16/first-us-criminal-cryptocurrency-sanctions/> [https://perma.cc/K2QJ-5JH8] (quotation is Hsu paraphrasing the U.S.'s charges). Also, in early 2022, the Justice Department announced its largest virtual currency seizure after arresting a New York couple accused of trying to launder \$3.6 billion in stolen bitcoin. Devlin Barrett, *Feds Arrested Married Couple, Seize \$3.6 Billion in Hacked Bitcoin Funds*, WASH. POST (Feb. 8, 2022), <https://www.washingtonpost.com/national-security/2022/02/08/bitfinex-hack-bitcoin-arrests/> [https://perma.cc/J5EA-L9MZ].

<sup>47</sup> Richard T. Ainsworth & Andrew B. Shact, *Blockchain Technology Might Solve VAT Fraud*, TAX NOTES INT'L 1165 (Oct. 11, 2016).

<sup>48</sup> See also Matt Levine, *The Crypto Story: Where It Came From, What It All Means, and Why It Still Matters*, BLOOMBERG BUSINESSWEEK, Oct. 31, 2022, at 55 ("The other problem is that, while crypto generally creates decentralized and irreversible transactions, it also creates a permanent public record of those transactions. The government can just look at that record! It can't reverse the transactions, but it can do its best to make life unpleasant for the recipients.").

<sup>49</sup> This could be done also by contacting third-party companies to assist the Service in the technology aspect. For example, in order to determine the tax obligations of customers who purchase and sell Bitcoins, the Service has contracted with Chainals Inc., a Swiss company with offices in New York, to assist in identifying owners of digital wallets. See ROSARIO GIRASA, REGULATION OF CRYPTOCURRENCIES AND BLOCKCHAIN TECHNOLOGIES: NATIONAL AND INTERNATIONAL PERSPECTIVES 190 (2018).

<sup>50</sup> In April 2022, a draft report on the impact of crypto and blockchain on taxation was presented in the European Parliament sub-committee on tax matters (the "European Parliament Draft Report on Crypto"). See *European Parliament Draft Report on Crypto*, CADWALADER (May 25, 2022), <https://www.cadwalader.com/brass-tax/index.php?nid=56&eid=217> [https://perma.cc/R3RS-HA4J]. The draft resolution contains a range of recommendations for the European Commission and the EU member states, including the importance of EU national tax administrations receiving adequate investment from the EU member states in human resources training, digital infrastructure, and specialized personnel and equipment. In particular, the draft resolution points out that tax authorities adapting to new emerging technologies, such as blockchain and artificial intelligence, may make tax procedures more efficient, may facilitate tax

using cryptocurrencies, such as Bitcoin, are recorded electronically. Online transactions can be more easily tracked because of the public ledger features.<sup>51</sup> The distribute ledger technology (“DLT”), which is the technology underpinning Bitcoin, allows transactions to be publicly displayed and shared across the entire DLT.<sup>52</sup>

Moreover, over the years it has become more obvious that securing the pseudonymity of the cryptocurrency users is not always possible, especially with respect to the major cryptocurrencies such as Bitcoin and Ether. This is especially true when the crypto world meets the real world. In this case, it would be easier to link physical and digital identities, because users have to reveal their identities and physical locations to receive goods or services. Thus, crypto addresses cannot remain fully anonymous.<sup>53</sup> According to some observers, for instance, Bitcoin in its current conception is not an anonymous form of transacting, because most transactions can be linked to a public ID (*i.e.*, the public key), which can be tracked to individuals by their registrations on a transaction or exchange site.<sup>54</sup> As a result, the history of a given Bitcoin can already be tracked with relative ease.<sup>55</sup>

Advanced and sophisticated technologies should be able to help the Service deal with the anonymity concerns associated particularly with newer

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compliance, and may increase traceability of taxable transactions. The draft resolution also highlights that such technology should, on the one hand, ensure that taxation better reflects the business environment in the digital age, and, on the other hand, guarantee high levels of data protection. The draft report consists of a motion for a European Parliament resolution, which, when passed, will be forwarded to the European Council and the European Commission.

<sup>51</sup> See James Alm et al., *New Technologies and the Evolution of Tax Compliance*, 39 VA. TAX REV. 287, 287 (2020) (“The outcome will largely depend upon whether Congress updates the tax laws to address technological advances and grants sufficient funding to the Internal Revenue Service to maintain robust enforcement efforts in an ever-changing technological landscape.”).

<sup>52</sup> See Kyle Lydy, Comment, *The IRS Can Show Cryptocurrency Holders That Money Talks Through Updated Guidance and Conditional Forgiveness*, 2021 MICH. STATE L. REV. 295, 295–96 (2021) (“There is a perception among holders that cryptocurrency is anonymous, but given the inherently public nature of the electronic ledger known as the blockchain, many forms of cryptocurrency allow holders to be identified. By working with computer scientists, the IRS can track down noncompliant holders.”).

<sup>53</sup> PRASAD, *supra* note 2, at 138.

<sup>54</sup> In November of 2016, the Department of Justice (DOJ) requested a “John Doe” summons be issued to Coinbase, Inc., a San Francisco company that is one of the largest cryptocurrency exchange companies in the world. See GIRASA, *supra* note 49, at 189. The DOJ demanded a list of all U.S. persons who conducted transactions in a “convertible virtual currency” between January 1, 2013 and December 31, 2015. Specifically, the DOJ wanted a list of all individuals that bought and sold Bitcoin during that two-year time period. This issue went to court, and the result of the decision on *U.S. v Coinbase* enabled the Service and other government enforcement officials to crack the blockchain shield that had protected users of cryptocurrency. This will presumably impede the ability of Coinbase to maintain the privacy of its customers. See *id.* at 190.

<sup>55</sup> Sami Ahmed, *Cryptocurrency & Robots: How To Tax and Pay Tax on Them*, 69 S. C. L. REV. 697, 723 (2018). See Jason Clark & Margaret Ryznar, *Improving Bitcoin Tax Compliance*, 2019 U. ILL. L. REV. 70 (2019).

cryptocurrencies, such as Monero and Zcash. Both of these cryptocurrencies were designed to be truly anonymous by preventing the publication of any details related to a specific transaction in their networks.<sup>56</sup>

b. *Enhancing Reporting Requirements for Crypto Transactions.* In order to handle the challenges related to tracking the illicit crypto transfers (suggesting possible tax evasion) due to the relatively high level of anonymity and volatility, the Service should enhance crypto reporting requirements by issuing regulations that set detailed reporting requirements on the transacting parties along with the relevant intermediaries<sup>57</sup>, such as crypto exchanges.<sup>58</sup>

Recently, as part of the Infrastructure Investment and Jobs Act<sup>59</sup> (the “Infrastructure Act”), Congress modified section 6050i<sup>60</sup> to include “digital assets” in addition to cash. Section 6050i imposes reporting requirements on “any person” who is engaged in “trade or business” and receives over \$10,000 in digital assets.<sup>61</sup> The recipient of the cryptocurrency must collect personal information of the sender, including address and social security number, and sign and submit a report to the government within 15 days of the transfer.<sup>62</sup> Failure to comply will result in mandatory fines and can be a felony resulting in prison time.

This modified rule is helpful and a step forward toward enhancing the reporting requirement in the crypto world, and thus combating the potential use of crypto in criminal activity and tax evasion. However, it suffers from some significant flaws. Observers argue that this section, which was meant to apply in the case of “old-fashioned” in-person cash transactions, is difficult to apply in the crypto world as it makes compliance extremely burdensome, and

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<sup>56</sup> Research has raised questions about the non-traceability of transactions even in the cases of Monero and Zcash. See PRASAD, *supra* note 2, at 158.

<sup>57</sup> 2020 OECD REPORT, *supra* note 35, at 43. (“As for reporting, to date taxpayers – whether individuals or entities – are in most cases in charge of recordkeeping and of declaring the information to the tax authorities through their tax returns. This in itself can prove challenging. ... However, to promote both simplicity for taxpayers and improved compliance, a framework by which exchange platforms are also responsible for both recordkeeping and for transmitting information to the domestic tax authorities, may be advantageous.”).

<sup>58</sup> In addition the Service should instruct cryptocurrency exchanges to take different measures to abate criminal activity in their network by strictly complying with anti-money laundering (AML) record keeping and other enhanced reporting requirements. It is also worth considering instructing the cryptocurrency exchanges to provide the traders on their platforms with some version of Form 1099 to help users comply with filing such a form in an efficient manner, especially in cases of large trade volume.

<sup>59</sup> Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 12 Stat. 503 (2021).

<sup>60</sup> References to a “section” are to a section of the Internal Revenue Code of 1986, as amended (Code), unless otherwise indicated.

<sup>61</sup> I.R.C. § 6050i.

<sup>62</sup> The recipient should report the information by filling out Form 8300 and filing it with the Service or the Financial Crimes Enforcement Network (FinCEN).



in some cases, even impossible due to the special nature of cryptocurrencies.<sup>63</sup> In order to make the section more appropriate to the crypto world, the scope of “digital assets” should be narrowed down and the threshold for criminal liability should be increased.

The new reporting requirement defines “digital assets” as “any digital representation of value which is recorded on a cryptographically secured distributed ledger or any similar technology as specified by the Secretary.”<sup>64</sup> This definition is overly broad and does not take into account the distinctions between the various cryptocurrencies.

As will be elaborated later in this Article, some cryptocurrencies are similar in substance to money. This includes crypto held for a short period of time and used to purchase goods or services in the real-world economy. However, other categories of cryptocurrencies behave more like capital assets. This includes crypto held for investment purposes and for a longer period of time, in addition to special kinds of digital assets such as NFTs. Imposing unduly large reporting requirements on the latter category of cryptocurrency is flawed. These reporting requirements do not address the concern that underlies the criminal nature of section 6050i, enacted almost four decades ago, to discourage large in-person cash transfers.<sup>65</sup> Thus, “digital assets” under this section should include only cryptocurrencies which are fundamentally similar to cash and which function as money.

Insofar as criminal liability is concerned, this section should apply primarily (if not exclusively) to large transactions, where the potential for discovering criminal activity is much more pronounced. The volatility of cryptocurrencies adds to the administrative difficulty for the Service and to the difficulty taxpayers may have in complying with this reporting requirement. Therefore, exempting smaller transactions from such an obligation would be preferable since it would not harm innovation and participation in the crypto field. The proper threshold should be raised to a higher amount, for instance \$80,000.

It should be noted that on October 10, 2022, the OECD published its final guidance on the “Crypto-Asset Reporting Framework and Amendments to the Common Reporting Standard” (the “2022 OECD Report”).<sup>66</sup> The 2022 OECD Report provides the OECD’s new global tax transparency

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<sup>63</sup> See ABRAHAM SUTHERLAND, PROOF OF STAKE ALLIANCE RESEARCH REPORT (2021), <https://www.proofofstakealliance.org/wp-content/uploads/2021/09/Research-Report-on-Tax-Code-6050I-and-Digital-Assets.pdf> [<https://perma.cc/2J9C-GHTU>].

<sup>64</sup> I.R.C. § 6045(g)(3)(D).

<sup>65</sup> The reporting requirements made it harder for governments to track cash used in criminal activity and to alternatively encourage the use of financial institutions for money transfers.

<sup>66</sup> The OECD published its final report after it has released a public consultation document on March 22, 2022, titled “Crypto-Asset Reporting Framework and Amendments to the Common Reporting Standard”, which addresses the same issues. See OECD, CRYPTO-ASSET REPORTING FRAMEWORK AND AMENDMENTS TO THE COMMON REPORTING STANDARD (2022).

framework, which provides for the automatic exchange of tax information on transactions in cryptocurrency (the cryptoasset reporting framework, or CARF), which is expected to increase the information obtained by governments while also increasing compliance burdens on the parties involved. The CARF rules are proposed to cover intermediaries that provide services effectuating exchange transactions in relevant cryptocurrencies, for or on behalf of customers (reporting cryptoasset service providers). The three types of transactions subject to reporting are: (1) exchanges between relevant crypto-assets and fiat currencies, (2) exchanges between one or more forms of relevant crypto-assets, and (3) transfers (including retail payment transactions) of relevant crypto-assets (subject to a *de minimis* limit). We recommend that the U.S. sign onto this framework and align its cryptocurrency reporting requirements with the standards set under the 2022 OECD Report.

## B. *Regulatory Challenge*

A regulatory challenge is posed when the taxable basis of a transaction becomes uncertain. This challenge, in general, emanates from the uncertainty that surrounds the general economic function and legal status of cryptocurrency transactions. In this uncertain legal environment, taxes on crypto activity should have a regulatory role. As a regulatory tool, tax law should guarantee that the taxation of crypto activity neither impedes the development and innovation of the crypto industry nor encourages participation in it. This is achieved by adhering to the principle of tax neutrality when taxing crypto activity, which means taxing cryptocurrency transactions in a way that follows their nature and use.

### 1. *Lack of General Regulatory Guidance*

Despite the rapid emergence of cryptocurrencies in the U.S. and the fast-evolving sector<sup>67</sup>, the regulatory framework of the crypto world is still unclear. The activities and products of the crypto industry do not easily fit into the existing regulatory categories and definitions. Congress has not addressed the issue comprehensively yet.<sup>68</sup> Governmental agencies, such as FinCEN, the

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<sup>67</sup> See *supra* note 5.

<sup>68</sup> The latest attempt for crypto legislation by Congress was a bill introduced in June 2022 by Senators Cynthia Lummis (R. WY) and Kirsten Gillibrand (D. NY). This bipartisan comprehensive crypto bill, named “the Responsible Financial Innovation Act”, aims to create a “complete regulatory framework for digital assets.” Among other things, the bill establishes that digital tokens that are sufficiently “decentralized” (such as Bitcoin) would be treated as commodities. The Commodity Futures Trading Commission would be granted new authority to regulate the markets of such assets. Lummis-Gillibrand Responsible Financial Innovation Act, S.4356, 117th Cong. (2022).

CFTC, and the SEC, have failed to provide clear guidance or regulate the crypto world in a comprehensive manner, and each agency seems to be treating crypto in the way that will maximize its regulatory power over it.<sup>69</sup> In light of this lack of regulatory guidance, on March 9, 2022, President Biden issued his Executive Order on “Ensuring Responsible Development of Digital Assets” (the “Executive Order”). The Executive Order creates an action plan for more than 20 federal agencies and executive departments to further a national policy for digital assets across six key priorities: consumer and investor protection, financial stability, illicit finance, U.S. leadership in the global financial system and economic competitiveness, financial inclusion, and responsible innovation.<sup>70</sup> Following the President’s Executive Order,<sup>71</sup> the White House released a Fact Sheet on September 16, 2022, entitled a “Comprehensive Framework for Responsible Development of Digital Assets” (the “Crypto Fact Sheet”).<sup>72</sup> However, neither the Executive Order nor the Crypto Fact Sheet called for an assessment of the appropriate tax treatment of cryptocurrency and blockchain activities.

The lack of regulatory guidance by the relevant governmental agencies poses a challenge for the tax law, especially in cases where the regulatory definition of a specific term is aligned with the definition in tax law. For

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Prior to this bill, the last attempt at crypto legislation by Congress was the Crypto-Currency Act of 2020, which was not enacted into law. The bill’s stated purpose was to “clarify which Federal agencies regulate digital assets, to require those agencies to notify the public of any Federal licenses, certifications, or registrations required to create or trade in such assets, and for other purposes.” Crypto-Currency Act of 2020, H.R. 6154, 116th Cong. (2019-2020). The bill proposed categorizing digital assets into three separate categories with distinct definitions: cryptocurrencies, cryptocommodities, and cryptosecurities. Then, FinCEN, the CFTC, and the SEC would have the sole power to regulate the category that falls under their respective jurisdiction. FinCEN would regulate cryptocurrencies. The CFTC would regulate crypto-commodities. The SEC would regulate crypto-securities. See David C. McDonald, *Coining New Tax Guidance: How the IRS is Falling Behind in Crypto*, 28 U. MIAMI INT’L & COMP. L. REV. 151, 160 (2021).

<sup>69</sup> For instance, where cryptocurrencies are deemed securities, the SEC then has wide powers to regulate or even prohibit the exchange of cryptocurrencies.

<sup>70</sup> Press Release, White House, Executive Order on Ensuring Responsible Development of Digital Assets (Mar. 9, 2022), <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/> [<https://perma.cc/4J56-BWAX>].

<sup>71</sup> In Treasury Secretary Yellen’s first speech about cryptocurrency since President Joe Biden signed the Executive Order, Secretary Yellen called for cryptocurrency regulation to reduce risk and ward off fraudulent or illicit transactions. *Treasury Secretary Yellen Calls for Cryptocurrency Regulation to Reduce Risk, Fraud*, PBS (Apr. 7, 2022), <https://www.pbs.org/newshour/economy/treasury-secretary-yellen-calls-for-cryptocurrency-regulation-to-reduce-risk-fraud> [<https://perma.cc/GJT9-8ZJN>].

<sup>72</sup> Press Release, FACT SHEET: White House Releases First-Ever Comprehensive Framework for Responsible Development of Digital Assets” (Sep. 16, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/09/16/fact-sheet-white-house-releases-first-ever-comprehensive-framework-for-responsible-development-of-digital-assets/> [<https://perma.cc/PG4Q-Y459>].

example, the classification of crypto as a security or commodity is relevant in determining the tax treatment of crypto under different tax provisions.

In addition, the uncertain regulatory environment makes it difficult to operate and use cryptocurrencies in the U.S., hampers the crypto industry's development, and inhibits innovation in this field.<sup>73</sup> Arguably, the lack of clear guidance might also increase crypto's potential use in criminal activity, including money-laundering. In this uncertain regulatory environment, tax law could play a critical role in regulating taxpayer<sup>74</sup> behavior in the cryptocurrency market.

## 2. Tax Law as a Regulatory Tool

a. *What Is Tax Law Meant to Achieve?* A tax can have one of three goals: raising revenue for the government, redistributing income from the rich to the poor, and regulating behavior.<sup>74</sup> There is no such thing as a pure tax (*i.e.*, tax that has only one goal, such as revenue generation)—any actual tax always has more than one purpose. All taxes that influence behavior fall within the definition of regulatory taxes, and all taxes that produce some revenue effect some redistribution. But it still makes sense to try to classify tax provisions according to their primary goals, because that underlies our method of evaluating them.<sup>75</sup>

Taxes on crypto activity should be classified as a regulatory taxes<sup>76</sup>, as arguably one of the primary goals of the taxation of cryptocurrency is to regulate the taxpayers' behavior in the cryptocurrency market. How government treat cryptocurrencies for tax purposes could have a significant impact on its adoption and use. The question that underlies this discussion is whether the government is interested in using taxation as an instrument to encourage or discourage the use and holding of cryptocurrencies if this is perceived to be harmful or otherwise undesirable. The tax law, as a regulatory tool, should reflect the general policy towards cryptocurrencies and should be responsive to the larger economic impacts and concerns that cryptocurrencies raise. These policy considerations and regulatory goals can displace normatively proper rules that are designed to apply the relevant analogy and corresponding tax treatment.

b. *The Regulatory Role of Tax in the Cryptocurrency World.* As mentioned above, cryptocurrencies have been around since 2009, when Bitcoin was invented, and the distributed ledger technology that underlies them has found widespread use. Even so, given the volatility of some prominent crypto, various observers, including *The Economist*, have been

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<sup>73</sup> See Alam & Zamani, *supra* note 6, at 167.

<sup>74</sup> See generally Reuven S. Avi-Yonah, *The Three Goals of Taxation*, 60 TAX L. REV. 1 (2007).

<sup>75</sup> See Avi-Yonah, *supra* note 74.

<sup>76</sup> As such, crypto taxes should be judged by how well they achieve regulatory goals compared with other forms of regulation.

pronouncing the imminent death of crypto, which they regard as a glorified Ponzi scheme.<sup>77</sup> In our opinion, the naysayers are wrong. We have no view on whether the rise of crypto is a positive or negative phenomenon. The same could be said about the internet, which has proven to have both pros and cons. Our view is that crypto in some form is here to stay because the underlying technology is too useful to ignore. Thousands of crypto tokens may collapse soon as the world moves into a recession—but so did thousands of dot-com companies in the late 1990s. The survivors (such as Facebook, Amazon, Netflix, and Google) are today's market-dominating behemoths. We predict that a new generation of survivors will emerge from the crypto universe as well.

Given the potential impacts of cryptocurrency industry, tax laws should not discourage economic efficiency and should not be, by itself, a major obstacle to the industry's development.

Taxing cryptocurrencies should be based on the principle of tax neutrality, which means taxing cryptocurrency transactions in a way that follows the nature, the use of the cryptocurrency in question, and the purpose for which the cryptocurrency was acquired and disposed of. If cryptocurrency's nature is akin to an investment, it should be taxed as property under the applicable rules. By contrast, if cryptocurrency's nature is akin to fiat currency, *i.e.*, when cryptocurrency functions as money, it should be taxed as currency under the Code's applicable rules. And it is necessary to approximate tax neutrality with comparable conventional transactions or activities with fiat currencies. Achieving neutrality in the latter case requires changing current tax rules, since tax law in relation to currencies has been developed in the context of fiat currencies.<sup>78</sup>

### C. Current U.S. Tax Treatment of Cryptocurrencies

Congress has not enacted yet any legislation addressing the taxation of cryptocurrency. A few crypto tax bills were introduced recently in Congress. The last bill was introduced in July 2022 by Senators Patrick Toomey (R. PA) and Kyrsten Sinema (D. AZ). This bipartisan bill, called the "Virtual Currency Tax Fairness Act," aims to make small crypto transactions of up to \$50 exempt from capital gains tax.<sup>79</sup> Similar provisions have been introduced to Congress recently, including a bipartisan bill introduced in February 2022

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<sup>77</sup> *Unstablecoin*, THE ECONOMIST, May 21, 2022, at 69; Paul Krugman, Opinion, *Crashing Crypto: Is This Time Different?*, N.Y. TIMES (May 17, 2022), <https://www.nytimes.com/2022/05/17/opinion/crypto-crash-bitcoin.html> [<https://perma.cc/RPB8-HHHG>].

<sup>78</sup> This is because, until the development of cryptocurrencies, decentralized currencies unbacked by a government were non-existent. See Anne Fairpo, *Taxation of Cryptocurrencies*, in CRYPTOCURRENCIES IN PUBLIC AND PRIVATE LAW 255, 257 (David Fox & Sarah Green eds., 2019).

<sup>79</sup> Virtual Currency Tax Fairness Act, S. 468, 117th Cong. § 2 (2022).

by Representatives Suzan DelBene, David Schweikert, Darren Soto, and Tom Emmer that had set the threshold benchmark at \$200.<sup>80</sup> In June 2022, Senators Cynthia Lummis (R. WY) and Kirsten Gillibrand (D. NY) introduced a comprehensive crypto bill that, among many other things, also sought to exempt taxes on all crypto transactions smaller than \$600.<sup>81</sup> None of the provisions introduced under these bills have been included under the recently enacted Inflation Reduction Act of 2022.<sup>82</sup> Given the current legislative calendar and environment, we believe that the chances of any of these bills actually being enacted into law soon are relatively low.

The Service, on the other hand, laid out its position regarding the taxation of “virtual currency” in 2014, published in the form FAQ (Frequently Asked Questions) (hereinafter: the “2014 Notice”).<sup>83</sup> The 2014 Notice does not address the administrative challenge, nor does it represent (in our view) the right regulatory policy.

### 1. *The 2014 Notice*<sup>84</sup>

The 2014 Notice provides guidance on the taxation of transactions involving “virtual currency.” The 2014 Notice applies only to “convertible virtual currency,” which is a virtual currency that has an equivalent in real currency, or that acts as a substitute for real currency, such as Bitcoin. For the purpose of this article “virtual currency” and/or “convertible virtual currency” have the same meaning as cryptocurrency which meets the real-world economy.

The 2014 Notice establishes that for federal tax purposes, virtual currency is treated as property.<sup>85</sup> Thus, general tax principles applicable to property transactions also apply to transactions using virtual currency. Virtual currency is not treated as currency that could generate foreign currency gain or loss for federal tax purposes. A taxpayer receiving virtual currency for goods or services must include the fair market value of the virtual currency in computing gross income.<sup>86</sup> The 2014 Notice also refers to other related

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<sup>80</sup> Virtual Currency Tax Fairness Act of 2022, H.R. 6582, 117th Cong. § 2 (2022).

<sup>81</sup> Lummis-Gillibrand Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

<sup>82</sup> Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818 (2022).

<sup>83</sup> Notice 2014-21, 2014-16 I.R.B. 938.

<sup>84</sup> The 2014 Notice was partially developed in response to the U.S. National Taxpayer Advocate’s 2013 Annual Report to Congress. See 1 NATIONAL TAXPAYER ADVOCATE 2013 ANNUAL REPORT TO CONGRESS, 249, [https://www.taxpayeradvocate.irs.gov/wp-content/uploads/2021/09/2013-ARC\\_VOL-1.pdf](https://www.taxpayeradvocate.irs.gov/wp-content/uploads/2021/09/2013-ARC_VOL-1.pdf) [<https://perma.cc/S43E-L3RY>] (urging the IRS to issue guidance to taxpayers regarding digital currency).

<sup>85</sup> Notice 2014-21, *supra* note 86, at 938. In the majority of cases, foreign countries also consider cryptocurrency to be a form of property for tax purposes. Within this definition, countries are adopting different approaches on how to categorize virtual currencies: while the majority of countries analyzed refer to them as intangible assets, some consider them commodities or financial instruments. 2020 OECD REPORT, *supra* note 35, at 15.

<sup>86</sup> Notice 2014-21, *supra* note 86, at 938.

matters such as determining the FMV and the basis of virtual currencies, exchanging virtual currency for other property, mining cryptocurrencies, receiving virtual currencies as a remuneration for employment, information reporting, withholding, etc.<sup>87</sup>

No reasoning is given for the Service's approach regarding the nature of virtual currency, although one may be implied since the brief comment to the definition of virtual currency explains that virtual currency does not have legal tender status in any jurisdiction.<sup>88</sup> Also, the Service believed that cryptocurrencies were held more for investment than used as a currency. A Service spokesman at the time stated that the Service had considered treating Bitcoin as foreign currency under section 988; however, the Service was unable to fit Bitcoin within the statute and regulations. In addition, according to the spokesman, Bitcoin was used more as an investment vehicle than as currency, implying that the Notice might have come out differently if Bitcoin was predominately used as currency.<sup>89</sup> Notably, the Service has recently released a notice (Notice 2023-34) in which the Service stated that it is aware that certain foreign jurisdictions have enacted laws that characterize Bitcoin as legal tender (the "2023 Notice").<sup>90</sup> Thus, the 2023 Notice modifies the Background section of the 2014 Notice to indicate that in some contexts, cryptocurrency may serve one or more of the functions of real currency, defined as the coin and paper money of the U.S. or of any other country that is designated as legal tender, circulates, and is customarily used and accepted as a medium of exchange in the country of issuance. However, the 2023 Notice also specifies that the use of cryptocurrency to perform "real" currency functions is still limited. Thus, the 2023 Notice states that the change to the Background section of the 2014 Notice does not affect the answers to the FAQs set forth in Section 4 of the 2014 Notice (including Q&A-2), which concludes that cryptocurrency is not treated as currency that could generate foreign currency gain or loss for U.S. federal tax purposes.

Although the 2014 Notice requests "comments from the public regarding other types or aspects of virtual currency transactions that should be addressed in future guidance," no further guidance has been published since then, except for the 2023 Notice and Revenue Ruling 2019-24, published in October 2019, which addresses the hard fork issue, discussed later in Part VI.

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<sup>87</sup> *Id.* at 938–39.

<sup>88</sup> Almost all countries appear to take the view that cryptocurrencies are not equivalent to sovereign currencies. In the public guidance issued by their financial regulators or tax authorities, governments often define cryptocurrencies by enumerating what they are not, and state explicitly that they do not constitute a fiat currency. *See* 2020 OECD REPORT, *supra* note 35, at 21. Reasons for this vary, but often relate to their decentralization, lack of government backing, price volatility and limited use as a means of exchange. *Id.* at 22.

<sup>89</sup> David D. Stewart, *ABA Section of Taxation Meeting: IRS Preps Bitcoin Investigators as Treatment Questions Remain*, 144 TAX NOTES 1538 (TA) (Sept. 29, 2014).

<sup>90</sup> Notice 2023-14, 2023-33 I.R.B. 484.

Thus, the 2014 Notice continues to be the point of reference for the U.S. tax treatment of cryptocurrencies.<sup>91</sup>

## 2. *General Flaws of the 2014 Notice*

Although the 2014 Notice clarified that cryptocurrency is treated as property for federal income tax purposes, it left unsolved a number of important issues regarding the treatment of cryptocurrency, including whether cryptocurrency generally would be considered part of an existing asset class (*e.g.*, commodities or securities) for purposes of various provisions of the Code, or instead would constitute a new asset class for some or all of those purposes.<sup>92</sup>

Moreover, the 2014 Notice does not address the administrative challenge associated with the taxation of cryptocurrencies. It also does not provide special reporting requirements to address the anonymity issue, nor does it address the special features of cryptocurrencies, including its high volatility and massive use.<sup>93</sup> Moreover, treating cryptocurrency as property in all cases would impose enormous bookkeeping difficulties on taxpayers.<sup>94</sup>

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<sup>91</sup> See, *e.g.*, I.R.S. News Release IR-2018-71 (Mar. 23, 2018).

<sup>92</sup> N.Y. STATE BAR ASS'N TAX SEC., REPORT ON CRYPTOCURRENCY AND OTHER FUNGIBLE DIGITAL ASSETS (2022) [hereinafter "2022 NYSBA REPORT"]. See also Sofya Bakradze, *To Tax or Not to Tax or How to Tax: Tax Policy and its Role in Cryptocurrency Adoption*, 28 RICH. J.L. & TECH. 340 (2021).

<sup>93</sup> According to recent research, since 2018, cryptocurrency ownership has gone from 2% of the population to 12% as of December 2022. See Michael Weber et al., *Do You Even Crypto, Bro? Cryptocurrencies in Household Finance* 11, Univ. of Chi. Becker Friedman Inst. for Economics, Working Paper No. 2023-70 (2023).

Other reports, including a report from JPMorgan Chase, have similarly unveiled statistics indicating a notable increase in cryptocurrency ownership, amounting to approximately 12-15% over the previous one to two years. JPMorgan's report, published in December 2022, and derived from its banking dataset, underscores the ongoing trend of individuals continuing to transfer more money into crypto than they are pulling out of it. Chris Wheat and George Eckerd, *The Dynamics and Demographics of U.S. Household Crypto-Asset Use*, JPMORGAN CHASE & CO. (Dec. 2022), <https://www.jpmorganchase.com/institute/research/financial-markets/dynamics-demographics-us-household-crypto-asset-cryptocurrency-use> [<https://perma.cc/TBH7-NPWU>].

<sup>94</sup> In 2020, the OECD published "Taking Virtual Currencies: An Overview of Tax Treatments and Emerging Tax Policy Considerations." 2020 OECD REPORT, *supra* note 35. The 2020 OECD Report provided general insights and recommendations for policymakers to consider in the taxation of cryptocurrencies. These recommendations include providing clear guidance and a clear legislative framework on how cryptocurrencies fit within the existing tax framework, providing comprehensive guidelines that address the major taxable events (and income forms) associated with cryptocurrencies, and describing how other forms of crypto-assets (including security and utility tokens) are to be treated for tax purposes. Moreover, the 2020 OECD Report recommends that policymakers communicate the rationale behind the adopted tax treatment, that they consider whether the tax treatment of cryptocurrencies is coherent with the broader regulatory framework, and that they consider how to support improved compliance. Clearly, the 2014 Notice does not meet the recommendation and conclusions set in the 2020 OECD Report. *Id.*



From a regulatory perspective, the major consequence of the guidance under the 2014 Notice is that it would discourage the use of cryptocurrencies, especially their use for daily, short-term transactions.<sup>95</sup>

Cryptocurrencies, such as Bitcoin, are emerging as a market force that has grown into billions of dollars in spending power. However, the Service, by sticking to strict definitional requirements, has created excessive inconvenience for those using cryptocurrencies for day-to-day or short-term transactions.<sup>96</sup> The complication created by the 2014 Notice is reflected in the need for users of cryptocurrency to maintain extensive records to calculate tax due on the gain from the sale or exchange of the cryptocurrency, even for insignificant (*i.e.*, small) purchases. Keeping track of these daily small transactions using Bitcoin or other cryptocurrencies is unduly burdensome.<sup>97</sup> Not only would Bitcoin users potentially incur tax liability every time they purchased something with Bitcoins, but they would also have to pay attention to which Bitcoins they were spending to manage their tax liabilities.<sup>98</sup>

Arguably, the 2014 Notice favors investors in crypto over daily users who use it as a currency, thus harming efficiency. In so doing, cryptocurrencies such as Bitcoin are harmed when used in the marketplace rather than for investment purposes.<sup>99</sup>

Importantly, there are numerous other issues regarding the tax consequences of cryptocurrencies that are not addressed in the 2014 Notice. Some of these issues did not even exist or appear in 2014, when the Notice was first issued, because they emerged along with the fast development in the cryptocurrency industry, the evolution of its underlying technology, and the dizzying variety of crypto activities in the last few years. For example, the 2014 Notice does not refer to the taxation of different kinds of mining

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<sup>95</sup> See also Arild B. Doerge, *Tax Policy for the Wider Cryptoverse*, 21 TRANSACTIONS: TENN. J. BUS. L. 39, 69 (2019) (“In addition to the failure of the prevailing IRS guidance on cryptoassets to serve the three fundamental goals of tax policy, it also fails to promote public policy in three key areas. First, the prevailing policy discourages innovation and economic efficiency. Second, it is difficult to enforce the prevailing policy, leading to massive under-reporting by tax payers and reduced tax receipts. Third, the U.S. is at risk of falling behind global competitors for the economic, technological, and strategic innovations cryptoassets can provide.”).

<sup>96</sup> Zachary B. Johnson, *I Got 988 Problems But Bitcoin Ain't One: The Current Problems Presented by the Internal Revenue Service's Guidance on Virtual Currency*, 47 U. MEM. L. REV., 633, 673 (2016).

<sup>97</sup> David McNeely, *Blame the IRS: A Look at Cryptocurrency and the IRS's Lackluster Response to Its Rising Popularity*, 14 CHARLESTON L. REV. 513, 533 (2020).

<sup>98</sup> Crypto holders would need to determine if the cryptocurrencies were held beyond a year (and thus subject to the lower capital gains tax rate) or less than a year (and thus subject to tax at the ordinary income rate). This determination is based on how the purchases and sales are calculated, so this monitoring would be a burdensome obligation not easily accomplished. See GIRASA, *supra* note 49, at 184. See also Adam Chodorow, *Bitcoin and the Definition of Foreign Currency*, 19 FLA. TAX REV. 365, 377 (2016) (hereinafter, Chodorow, *Bitcoin*).

<sup>99</sup> See GIRASA, *supra* note 49, at 184–85.

activities with different consensus mechanisms (*e.g.*, as Proof of Work compared to Proof of Stake consensus), crypto-to-crypto exchanges and transactions, special crypto transactions (*e.g.*, hard forks, airdropping, ICOs etc.), and special kinds of cryptocurrency such as Stablecoins and NFTs. This Article will go through these issues and proposes an alternative for treating cryptocurrencies in an efficient way, in order to address the flaws that stem from the current treatment under the 2014 Notice.

#### IV. Taxation of Earning Cryptocurrency

Cryptocurrencies, such as Bitcoin, are earned by multiple means. These are either: through purchasing, receipt as a payment for goods or services, as compensation for employment, or earned through mining or staking activities as explained below. The tax treatment of crypto at the moment in which it is earned is critical to the determination of basis and character of income upon realization.

If a taxpayer acquires crypto for cash, the tax treatment is fairly straightforward – the basis in the crypto purchased is equal to the cash paid. However, if a taxpayer acquires crypto by mining, staking, or exchanging crypto for other crypto, determining the proper tax treatment and tax classification of the crypto received in such cases is not always a straightforward task. In addition, unlike acquiring crypto for cash, determining the fair market value of the crypto earned by other means can be a significant challenge.<sup>100</sup> This part goes through the different ways in which crypto can be earned, and it attempts to introduce a proper tax treatment for each.

##### A. *Cryptocurrency as Compensation for Employment*

Cryptocurrencies paid as “wages” to employees are treated as income subject to tax at ordinary income rates in the hands of the employee when received.<sup>101</sup> As a result, according to the 2014 Notice, the fair market value of the cryptocurrency paid as wages is subject to federal income tax withholding and informational reporting as required by law and regulation.<sup>102</sup>

As the U.S. government does not accept tax payments in the form of cryptocurrency, a portion of the cryptocurrency must be liquidated into cash before being transferred by the employer to the employee. The employee takes a basis in the cryptocurrency received, equal to the amount of income recognized upon its receipt. The employer must also realize and recognize taxable gain in the date of transfer to the extent of any appreciation in the

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<sup>100</sup> Kathleen R. Semanski, *Income, from Whatever Exchange, Mine, or Fork Derived: The Basics of U.S. Cryptocurrency Taxation*, 37 BANKING & FIN. SERVS. POL'Y REP. 8, 11 (2018).

<sup>101</sup> Notice 2014-21 *supra* note 83, at Q&A-11.

<sup>102</sup> *Id.* Moreover, cryptocurrency paid to an employee as compensation is generally treated as “wages” for employment tax purposes.

cryptocurrency used to pay the employee's compensation (which would be offset by the employer's applicable deduction for wages paid).<sup>103</sup>

One of the challenges that employers face is valuation. Particularly difficult to value are cryptocurrencies that do not have readily ascertainable fair market value on the day of payment to the employee. In such cases, employers face challenges in determining a proper amount of tax to withhold. This is not a novel issue. Employers who provide employees with certain benefits-in-kind often encounter a valuation problem when such benefits do not have a readily ascertainable fair market value. To alleviate this problem, tax laws often provide for *de minimis* fringe benefits exemptions.<sup>104</sup> While cryptocurrencies are not considered fringe benefits, it would be appropriate to provide a *de minimis* exemption for cryptocurrency when it is paid as a compensation. This would help alleviate the valuation problem associated with paying cryptocurrency as a method of compensation for employment.

In some cases, crypto firms may issue their native blockchain crypto as compensation to their own employees. In this regard, the question that arises is whether cryptocurrency issued by crypto companies to their employees is to be treated in a similar manner as employee stock-based compensation under the Code and regulations.<sup>105</sup> Employee stock-based compensation (such as stock options) are designed to incentivize employees and align their economic interest with those of the firm's. Cryptocurrency, by its nature, is not equity. Thus, it is generally difficult to see how, in this scenario, cryptocurrencies should be treated as stock-based compensation for tax purposes. However, in some cases, cryptocurrencies may play the same role as stock-based compensation, such as in situations of issuing tokens backed by equity in an employer company.<sup>106</sup> In this case, it might be appropriate to consider the crypto as stock-based compensation for purposes of taxation.

## B. Mining Cryptocurrency

### 1. Consensus Mechanism

A consensus mechanism refers to any number of methodologies used to achieve agreement, trust, and security across a decentralized computer network.<sup>107</sup> In the context of blockchains and cryptocurrencies, consensus mechanisms are essential to maintaining the integrity and the security of the network, as they are used to verify new transactions, record them into the

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<sup>103</sup> See Semanski, *supra* note 100, at 13-14.

<sup>104</sup> CHRISTOPHE WAERZEGGERS & IRVING AW, CRYPTOASSETS: LEGAL, REGULATORY, AND MONETARY PERSPECTIVES 219, 237 (Chris Brummer ed. 2019).

<sup>105</sup> WAERZEGGERS & AW, *supra* note 105, at 238.

<sup>106</sup> WAERZEGGERS & AW, *supra* note 105, at 238.

<sup>107</sup> Jake Frankenfield, *What Are Consensus Mechanisms in Blockchain and Cryptocurrency?*, INVESTOPEDIA, <https://www.investopedia.com/terms/c/consensus-mechanism-cryptocurrency.asp> [https://perma.cc/Z7P7-R3CT] (last updated Feb. 17, 2023).

digital public ledger (the blockchain), and create new coins or tokens.<sup>108</sup> Put simply, consensus mechanism is a system that allows all computers in the decentralized peer-to-peer crypto network to agree about which transactions are legitimate by accomplishing validation and immutability of the transactions in the public ledger, without relying on a trusted third party (e.g., central authority such as banks or credit card companies), thus protecting the integrity of the system and avoiding double-spending of crypto in the network.<sup>109</sup>

Proof-of-work and proof-of-stake are two of the most prevalent consensus mechanisms. Proof of work, first pioneered by Bitcoin and later used by many others, uses mining to achieve those goals. Proof of stake, which is generally used by newer cryptocurrencies such as Ethereum 2.0, Cardano, Tezos and others, uses proof-of-stake to achieve the same goals.<sup>110</sup>

## 2. *Mining Crypto—Achieving Consensus Through Proof-of-Work (PoW)*

a. *PoW and Mining—General.* Proof-of-work is the first crypto consensus mechanism. This mechanism is employed by Bitcoin and other cryptocurrencies, and it is used to accomplish the validation and immutability of the transactions in the crypto network. PoW and mining are closely related ideas. Mining is the process in which each block of transactions is validated and created by someone, more popularly referred as “miner.” PoW is a public consensus under which the whole network has to accept the results of the mining activity, *i.e.*, to accept that each block created or validated by a miner is a valid block of transactions. In this way, PoW achieves the validation and immutability objectives without relying on a third party.<sup>111</sup>

The reason it is called “proof of work,” is because it requires miners to use their computational power to solve a randomly generated cryptographic problem that involves hashing.<sup>112</sup> This kind of complicated math problem can be solved only by using a huge amount of computing processing power, thus solving the problem demonstrates proof of “work” (or more precisely “computational work”).<sup>113</sup> Miners under PoW blockchains race to be the first

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<sup>108</sup> Coin and tokens are different things. A coin (such as Bitcoin) is a cryptocurrency that can operate independently and has its own unique platform, while a token (such as Ether) is a cryptocurrency that depends on another cryptocurrency to operate.

<sup>109</sup> See PRASAD, *supra* note 2, at 120.

<sup>110</sup> *What is “Proof of Work” or “Proof of Stake?”*, COINBASE, last accessed Sept. 28, 2022, <https://www.coinbase.com/learn/crypto-basics/what-is-proof-of-work-or-proof-of-stake> [<https://perma.cc/9WEN-SDUK>].

<sup>111</sup> See PRASAD, *supra* note 2, at 120–21.

<sup>112</sup> Hashing refers to the process of generating a fixed-size output from an input of variable size. This is done through the use of mathematical formulas known as hash functions (implemented as hashing algorithms). *What is Hashing?*, BINANCE ACADEMY (Dec. 2, 2020), <https://academy.binance.com/en/articles/what-is-hashing> [<https://perma.cc/WF7K-WKPP>].

<sup>113</sup> See PRASAD, *supra* note 2, at 121.

to solve the math problem. The “winner” gets to update the blockchain with the block of the latest validated transactions and is rewarded by the network with a predetermined amount of crypto (“Block Rewards”).<sup>114</sup> PoW constitutes a robust way of keeping a secure decentralized blockchain by reducing fraud and enabling trust in the system.<sup>115</sup>

b. *Mining—Current U.S. Tax Treatment.* The Service treats crypto derived from mining by any person as income in all circumstances. According to the Service’s 2014 Notice, when a taxpayer successfully “mines” cryptocurrency, he or she must include the fair market value of the cryptocurrency in gross income as of the date of receipt of the cryptocurrency.<sup>116</sup> If the mining activity of cryptocurrency constitutes a trade or business and is not undertaken by the taxpayer as an employee, the net earnings from self-employment (generally, gross income derived from carrying on a trade or business less allowable deductions) resulting from those activities constitutes self-employment income and is subject to the self-employment tax.<sup>117</sup> Generally, self-employment income, measured in U.S. dollars as of the date of receipt, includes all gross income derived by an individual from any trade or business carried on by the individual.<sup>118</sup>

c. *Mining—Proper Tax Treatment.*

(i) *Block Rewards.*

(a) *Block Rewards Are Income.* The Service position regarding the taxation of block rewards as set forth in the 2014 Notice is the proper treatment. Block rewards derived from mining should be included in income in the hands of the “miner” as of the date of the receipt.

Section 61 defines income broadly: “gross income means all income from whatever source derived.” The Supreme Court tried to define income in the *Glenshaw Glass* case as “instances of undeniable accessions to wealth, clearly realized, and over which the taxpayers have complete dominion.”<sup>119</sup> This definition stands for the proposition that “income” should be broadly construed in the absence of a specific congressional directive to the

<sup>114</sup> What is “Proof of Work” or “Proof of Stake?”, *supra* note 110.

<sup>115</sup> PoW and mining are essential to the integrity and security of the blockchain because they maintain a high degree of transactional transparency. PRASAD, *supra* note 2, at 121 (“the public ledger [is] called the blockchain since, once the transactions coming onto the network and [are] grouped into blocks of data and validated, the blocks are then chained together . . . The way blocks are chained together and the entire blockchain is maintained on multiple nodes makes it obvious when someone tries to tamper with old transaction records.”).

<sup>116</sup> Notice 2014-21, 2014-16 I.R.B. 939, A-8.

<sup>117</sup> *Id.*, A-9.

<sup>118</sup> *Id.*, A-10.

<sup>119</sup> *Commissioner v. Glenshaw Glass*, 348 U.S. 426, 429–30 (1955). In this case, the Court found that punitive damages were included in gross income. *See also* Notice 2014-21, 2014-16 I.R.B. 939, A-10.

contrary.<sup>120</sup> This definition is also generally recognized as the standard by which income is measured.

Once the miner receives the Block Rewards, which are the coins that have value, the miner increases his or her economical wealth by the value of the coins received. What this means is that the miner meets the first requirement of the *Glenshaw Glass* definition of “undeniable accession to wealth.” The second requirement of the *Glenshaw Glass* definition is a “clear realization” to the accession to wealth. This requirement requires an identifiable event. The identifiable event in the mining case is the miner’s receipt of the Block Rewards to the miner and their deposit in a wallet as compensation for the work the miner has done in validating the new block. Thus, the second requirement of the definition is also met. Furthermore, the miner also meets the last requirement of the *Glenshaw Glass* definition, which is “dominion and control.” This requirement looks to whether the taxpayer has control over the accession to wealth. The miner clearly has control over the coins he or she receives, as once the miner gets the Block Rewards in his or her digital wallet, the miner has complete ownership over them, and can freely transfer them if so desired. Thus, according to *Glenshaw Glass*, the Blocking Rewards constitute income in the hands of the miner on the date of the receipt of such rewards.

(b) *Income Characterization of the Block Rewards.* Once it is determined that Block Rewards are “income,” the next question concerns the characterization of such income under the Code. Section 61 includes a non-inclusive list of specific items included in gross income. Other items of income are included in other sections in the Code (*e.g.*, sections 70-90). Arguably, Block Rewards may fall within one of two income categories: business income (section 61(a)(2)) or prize income (section 74). The classification depends on whether the level of crypto mining activities reflect carrying on a trade or business activity by the taxpayer, as opposed to mere speculation or hobby. If the income is derived from business activity, then it is considered business income. For federal income tax purposes, both are considered to be included in gross income, which means that they are essentially treated the same way for tax purposes, except for certain credits and deductions.<sup>121</sup>

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<sup>120</sup> MICHAEL J. GRAETZ ET AL., FEDERAL INCOME TAXATION: PRINCIPLES AND POLICIES 85 (8th ed. 2018).

<sup>121</sup> However, prize money might be distinguished for purposes of employment taxes, or might be distinguished when “modified adjusted gross income” is applicable, *e.g.*, income caps on “modified adjusted gross income” that limit other benefits such as earned income credit, deductibility of student loan interest, limitation of contribution to IRA, etc. See Danshera Cords & Kevin Ryan Green, *Taxing Virtual Currency: Comments on Notice 2014-21*, ABA SECTION OF TAXATION NEWSQUARTERLY 8 (2015).

It is worth noting that, as the Bitcoin blockchain has developed and grown, the computational power required to maintain it has increased.<sup>122</sup> As a result, it is unlikely to still find “hobbyists” or amateur miners now, especially since the cryptographic problems that need to be solved has a significant level of difficulty, which rises over time by the algorithm.<sup>123</sup> Nowadays, almost all mining is done by specialized businesses or groups of people who band their resources together,<sup>124</sup> which means that miners are likely to carry on this activity as part of their trade or business, and not as a hobby.<sup>125</sup> Thus, it is safe to assume that, in most cases, Blocking Rewards are to be considered as business income under section 61(a)(2).

(ii) *Expenses of Mining.* When determining what is income, it is also necessary to determine which deductions are allowed in measuring taxable income. One of the clarifications needed by the Service concerns the treatment of the mining expenses and whether such expenses are deductible. These expenses include the cost of the computing power and equipment used in mining. Assuming that Block Rewards are considered “business income,” which is likely the case, the mining expenses should be deductible under the Code sections that provide for a deduction for expenses or losses incurred by a business. The main provision is section 162, which allows a deduction for “all the ordinary and necessary expenses paid or incurred during the taxable year in carrying on any trade or business.” It is clear that mining expenses that are incurred while carrying on mining as a “trade or business” are current “ordinary and necessary” expenses incurred for business reasons (the mining process). Thus, they should be deductible and should not be treated as capital losses that are capitalized and then amortized over the useful life of the cryptocurrency. It is also important to mention that Bitcoin itself, despite being categorized as property by the Service, does not have a “useful life” for purposes of depreciation or amortization.<sup>126</sup> Thus, capitalizing the mining expenses to Bitcoin, for example, would make it difficult to determine the amortization amounts later on.

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<sup>122</sup> See *What is Mining?* COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-is-mining> [<https://perma.cc/B3R6-SXEG>] (last visited Sept. 29, 2022). In October 2019, mining required 12 trillion times more computing power per one bitcoin than it did when the first blocks were mined in January 2009. *Id.*

<sup>123</sup> Mining a new block requires solving a proof-of-work problem that incorporates the hash of the previous block, which in turn is sequentially chained to all previous blocks in on the blockchains. See PRASAD, *supra* note 2, at 129.

<sup>124</sup> What is Mining?, *supra* note 122.

<sup>125</sup> Much Bitcoin mining is now carried out by specialized devices called ASICs, or application-specific integrated circuits, which are tailor-built machines containing computer chips designed with a single specific purpose. See PRASAD, *supra* note 2, at 139–40.

<sup>126</sup> See Johnson, *supra* note 96, at 655. This is important because when a miner later disposes of (or exchanges) the Bitcoin, his gains or losses could be different depending on whether the mining costs were expensed or capitalized.

(iii) *International Tax Aspects—Allocating the Block Rewards Between Jurisdictions.* The question whether or not mining activity constitutes a business has international tax ramifications. These ramifications concern the allocation of taxing rights on the Block Rewards among jurisdictions when there is a cross-border mining activity.

If a tax treaty between two jurisdictions exists, then generally the source state has the taxing right over business profits incurred in that jurisdiction. Under most of the current treaty frameworks, the determination whether an activity (*e.g.*, the mining activity) constitutes business in a specific jurisdiction is determined based on the domestic law of the jurisdiction applying the treaty.<sup>127</sup> Also, the source state has taxing rights over business profits to the extent that the business activity is attributable to a permanent establishment (PE) that the miner has in the source state. These profits are determined, in general, by reference to the location of the assets used, and to activities undertaken to generate such profits. Thus, it is safe to assume that the location of the mining equipment generating the income (the Block Rewards) should be the source to which the mining income should be allocated. One of the interesting questions that arises is how to allocate the taxing rights between jurisdictions when the mining equipment has multiple locations. The allocation of the Block Rewards in that case should rely on objective measures, since reliance on a case-by-case factual approach is unsatisfactory and would result in confusion. For example, a proper parameter to allocate the income between jurisdictions might be based on the aggregate hashing power that contributed to the Block Reward used in mining activity in each jurisdiction.<sup>128</sup>

### C. *Staking Crypto*

#### 1. *Staking Crypto—Achieving Consensus Through Proof-of-Stake (PoS)*

Proof-of-stake is a consensus mechanism used by newer cryptocurrencies, such as Ethereum, Cardano, Tezos, and others.<sup>129</sup> Similar to PoW, PoS is

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<sup>127</sup> See Waerzeggers & Aw, *supra* note 104, at 231

<sup>128</sup> See Waerzeggers & Aw, *supra* note 104, at 232.

<sup>129</sup> Ether is the second most valuable cryptocurrency after Bitcoin. Ether runs on the Ethereum blockchain, which transitioned from PoW to PoS in 2022. According to research from December 2021, if Ether had moved to PoS under market conditions on that day, “PoS based chains would account for 44% of Layer 1 market capitalization. If we ignored Bitcoin from that calculation, PoS chains would balloon to a 91% share.” Rasheed Saleuddin & Chase Devens, *What’s at Stake in Staking-as-a-Service*, MESSARI (Dec. 15, 2021), <https://messari.io/article/what-s-at-stake-in-staking-as-a-service> [<https://perma.cc/9JNG-D66Z>]. Additionally, the Service has recently released chief counsel advice ILM 202316008 that appears to be a response to the conversion of the Ethereum blockchain from a PoW to PoS. See David L. Forst et al, *Blockchain Tax Principles and New Guidance*, 179 TAX NOTES FED. 1165 (TA) (May 15, 2023). The ILM sets that a taxpayer



mechanism used for processing transactions and creating new blocks in a blockchain, thus accomplishing the validation and immutability of the transactions in the crypto network.<sup>130</sup> PoS's particular goal is to maximize speed and efficiency, while simultaneously lowering fees in the crypto network.<sup>131</sup>

"Staking," under the PoS consensus, serves a similar function to "mining" under the PoW consensus. Staking is the process by which a network participant contributes, or "stakes," their own crypto in exchange for a chance to validate a new transaction, update the blockchain with last batch of transactions, and earn a reward.<sup>132</sup> Once a participant in the network "stakes" his coins and places them in the specific digital wallet, the wallet freezes them and they cannot be used in transactions while they are being used to stake the network. In a PoS network the validators (who are also referred to as "forgers") are chosen among the stakers randomly, with the probability of being chosen depending on the amount staked. Any participant who contributes to the PoS system typically earns a reward ("Staking Reward").<sup>133</sup> The more the participant stakes coins, the more he earns in Staking Rewards.<sup>134</sup> The network selects a winner based on the amount of crypto each staker has in the pool and the length of time held in the pool. All participating users receive a reward in the native crypto of the specific blockchain, which is generally distributed in the network in proportion to each validator's stake.<sup>135</sup>

In some cases, "staking" activity requires a high level of technical knowledge. Stakers can lose some of their stake via a process called "slashing" if their node goes offline or if they validate a "bad" block of

holding units of a cryptocurrency does not exchange those units under section 1001 when that cryptocurrency undergoes a protocol upgrade that affects its consensus mechanism. Second, that a taxpayer does not have gross income under section 61(a) as a result of the protocol upgrade. PoS's popularity has increased rapidly in recent years: the market capitalization of the top 30 PoS tokens approached \$600 billion at the end of Q3 2021. *The State of Staking Q3 2021*, STAKED, 2 (2021), <https://staking.staked.us/state-of-staking> [<https://perma.cc/M8LQ-P23V>] (scroll down to "Archive" and select "Download Report" for Q3 2021, then enter requested information to access report).

<sup>130</sup> Jake Frankenfield, *What Does Proof-of-Stake (PoS) Mean in Crypto?*, INVESTOPEDIA, [HTTPS://PERMA.CC/R6NT-X5T7](https://perma.cc/R6NT-X5T7) (updated May 31, 2023).

<sup>131</sup> For example, once Ether transforms to PoS, the number of Ether transactions that can be processed through the blockchain is expected to increase to thousands per second.

<sup>132</sup> *What is "Proof of Work" or "Proof of Stake?"*, *supra* note 110.

<sup>133</sup> In some staking activities the stakers receive an immediate transaction fee in the form of tokens, in addition to the newly-minted crypto which are rewarded at a later stage (the Staking Rewards).

<sup>134</sup> See PRASAD, *supra* note 2, at 152–53.

<sup>135</sup> *What is "Proof of Work" or "Proof of Stake?"*, *supra* note 110.

transactions. Therefore, some users participate in staking by joining a staking pool run by another party and earn the staking rewards thereafter.<sup>136</sup> This process is often referred to as “delegating.”<sup>137</sup>

## 2. Staking— Current U.S. Tax Treatment

The 2014 Notice does not make reference to the taxation of Staking Rewards or whether Staking Rewards should be treated differently from Block Rewards. However, the Service has recently published Revenue Ruling 2023-14 on the inclusion of Staking Rewards in income.<sup>138</sup> In this revenue ruling, the Service had ruled that if a cash-method taxpayer stakes crypto native to a PoS blockchain and receives additional units of crypto as rewards when validation occurs (*i.e.*, Staking Rewards), the fair market value of the rewards is included in the taxpayer’s gross income in the tax year in which the taxpayer gains dominion and control over such rewards. According to the Service, the party has an accession to wealth in the date in which it gains dominion and control over the rewards, through its ability, as of that date, to sell, exchange, or otherwise dispose of such rewards.<sup>139</sup>

We agree with the Service treatment as depicted in this Revenue Ruling. Additionally, it is important to note, as elaborated further below, that the treatment of Staking Rewards as taxable income should be broadly applicable to other instances of Staking Rewards, rather than being restricted solely to the specific scenario illustrated in the ruling (which involves, among other things, a taxpayer following the cash-method accounting). We recommend the Service to issue general and definitive guidance addressing this matter, since some might argue that Staking Rewards should not be treated as taxable income in other circumstances. Proponents of this argument may rely on the ongoing litigation on the case involving the matter of the taxation of Staking Rewards in *Jarrett v. United States*, where the government offered to refund plaintiff Joshua Jarrett the taxes he paid with respect to tokens he earned through staking in 2019.<sup>140</sup> This might suggest that the Service does not view

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<sup>136</sup> In recent years, many of the largest U.S.-based crypto-exchanges, including Coinbase, Gemini, and Kraken, have started offering staking services to their retail customers.

<sup>137</sup> *What is “Proof of Work” or “Proof of Stake?”*, *supra* note 110.

<sup>138</sup> Rev. Rul. 2023-14, 2023-33 I.R.B. 484.

<sup>139</sup> According to the Service, the same is true if a taxpayer stakes cryptocurrency native to a PoS blockchain through a crypto currency exchange and received additional units of cryptocurrency as rewards as a result of the validation. *Id.*

<sup>140</sup> Jarret filed for a refund in August 2020. The Service didn’t approve the refund claim; therefore, he pursued the matter in federal court. *Compl., Jarrett v. United States*, No. 3:21-cv-00419 (M.D. Tenn. Sept. 30, 2022).

Staking Rewards as income for federal income tax purposes in such a case.<sup>141</sup> To mitigate this lack of clarity, it is crucial for the Service to issue comprehensive guidelines that establish that earning crypto through staking in PoS networks like Ethereum will generate taxable income. This acknowledgment is warranted due to, among other things, the analogous roles played by “stakers” and “miners” in upholding network integrity through their respective activities of “staking” and “mining”. The following paragraphs will delve into a more comprehensive explanation of why the receipt of Staking Rewards should indeed be recognized as income for the purposes of federal income taxation.

### 3. Staking – Proper Tax Treatment

#### a. Staking Rewards are Income Under Current Law.

(i) *Glenshaw Glass Test*. It seems clear that Staking Rewards, when received, should give rise to income for federal income tax purposes. As mentioned earlier, section 61 defines gross income broadly to mean “all income from whatever source derived....” Staking Rewards also meet the widely accepted definition of income under the *Glenshaw Glass* test<sup>142</sup>: Staking Rewards are tokens which have value. Thus, they are considered to be an “accession to wealth,” as stakers have economic gain after receiving them, increasing their total wealth by the value of tokens received. The realization requirement under *Glenshaw Glass* is clearly met for Staking Rewards, since such rewards are deposited into a network address (digital wallet) once the process has been completed. Similar to the deposit of Block Rewards, the deposit of Staking Rewards is an identifiable event that can be used as a reference point for valuing the Staking Rewards and determining the taxable amount for the staker.<sup>143</sup> The third element of the *Glenshaw Glass* test (the “dominion and control” requirement) is also met for Staking Rewards: after the Staking Rewards are deposited to the staker’s accounts, they are freely transferable shortly after the deposit, and the stakers have total “dominion and control” over the Staking Rewards.<sup>144</sup>

(ii) *Staking Rewards are Earned, Not Created by Stakers*. In his article, “Cryptocurrency Economics and the Taxation of Block Rewards,”

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<sup>141</sup> See *IRS Waves White Flag in Lawsuit Over Taxability of Cryptocurrency Staking Rewards*, PR NEWSWIRE (Feb. 3, 2020), <https://www.prnewswire.com/news-releases/irs-waves-white-flag-in-lawsuit-over-taxability-of-cryptocurrency-staking-rewards-301474899.html> [https://perma.cc/CB5V-3V57].

<sup>142</sup> Brian Hamano, *Staking Out New Territory: Taxation of Proof-of-Stake Protocols*, 393 TAX NOTES (TA) 397 (Feb. 13, 2019).

<sup>143</sup> See Hamano, *supra* note 142, at 399.

<sup>144</sup> See Hamano, *supra* note 142, at 399.

Abraham Sutherland suggests that “reward tokens” (or Staking Rewards for the purpose of this Article) should not be included in gross income. He supports his conclusion by attempting to describe the real economic meaning and function underlying the protocols and the rewards received (or “created,” per Sutherland) by the stakers as part of the staking process.

“These reward tokens are valuable, but even though we can assume they have an exact dollar value when they are created, their value is not as straightforward as it may appear.” Sutherland mentions that

this is because the function of reward tokens is to redistribute the share of ownership (or stake) in a cryptocurrency network away from those who don’t participate in the maintenance of the network to those who do. The new tokens dilute the stake of all token holders while on net increasing the stake only of those who participate. By necessity, this dilution effect partially offsets any gains from participating in network maintenance. Including these rewards in gross income when they are received fails to account for this dilution effect and complicates the proper taxation of these tokens.<sup>145</sup>

Sutherland’s conclusion and description of the dilution effect in the network following the distribution of the Staking Rewards is not convincing. Sutherland himself, as appears in the quote above, states that Staking Rewards have value. Also, stakers receive the Staking Rewards as an additional reward to the stakes they already own. Thus, it is clear that the rewards constitute an accession to wealth under the *Glenshaw Glass* definition. The fact that the value of such tokens is sometimes unclear or “not as straightforward as it may appear” may impose an administrative burden to measure an “accession to wealth,” but it does not erase its existence. The stakers in a PoS network are not diluted; rather they are be compensated with new tokens that, in turn, increase their ownership percentage in the network and their total wealth as a result (unless their value is zero). That is exactly what incentivizes participants in the network to stake their tokens. Staking Rewards are not paid pro rata to all holders of the relevant cryptocurrency, and since not all holders participate in staking, different holders may stake their currency in different proportions, and participation in staking can change over time. In addition, holders who participate in staking will not receive Staking Rewards if they fail to validate transactions or perform improper validation, and may also have their staked currency reduced as a consequence.<sup>146</sup>

The fact that staking might dilute the crypto ownership percentage or effect the economic wealth of the other participants in the network does not rebut the conclusion that Staking Rewards constitute an accession to wealth in the hands of the stakers. This accession to wealth, represented by the

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<sup>145</sup> Abraham Sutherland, *Cryptocurrency Economics and the Taxation of Block Rewards*, 749 TAX NOTES FED. (TA) 749, 750 (Nov. 19, 2019).

<sup>146</sup> 2022 NYSBA REPORT, *supra* note 92, at 48.

valuable reward tokens, is clearly realized upon the receipt of the new rewards and by depositing them in the stakers network address. Thus, Staking Rewards should be included in gross income under current tax rules.

Sutherland goes further and argues that the reward tokens should not be included in gross income as they may be perceived as created by the validators as part of maintaining the cryptocurrency network, rather than received as a reward or compensation for such activity:

There is a meaningful if rarely invoked distinction between property that is received as compensation and property that is created. Received property typically is income when it is received. Created property, on the other hand, typically is not income when it is created. It results in income or a taxable gain only when it is first sold or exchanged. Reward tokens are best understood as property created by those who maintain a cryptocurrency network. In this sense, the tokens are similar to common goods such as crops, minerals, livestock, art, and even manufactured goods... New cryptocurrency tokens are indeed created in the course of maintaining the cryptocurrency network.<sup>147</sup>

The depiction of Staking Rewards as new tokens created by the staker is not accurate. Stakers contribute their own crypto in exchange for a chance to validate a new transaction and earn a reward for this. Technology-wise, stakers earn income in the form of tokens after they “stake” or contribute a particular crypto to the PoS network.<sup>148</sup> Thus, from that perspective, Staking Rewards are earned and are a different concept than creating property. Taxing Staking Rewards is not equivalent to taxing the creation of an artwork or the harvest of crops. The latter examples are not taxed upon “creation” or “harvesting” according to the tax rules,<sup>149</sup> probably because it is not possible to determine when to value and how to evaluate them at a specific point in time. Moreover, extracting food or resources from nature is not analogous to being compensated by a human-created mechanisms for maintaining the system. The Staking Rewards are not manufactured or produced directly

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<sup>147</sup> See Sutherland, *supra* note 145, at 752.

<sup>148</sup> In replying to the question “how does staking work?”, the Cryptonews website says: “Staking lets you earn income with your crypto by contributing to the Proof of Stake (PoS) network of a particular asset.” See *How Staking Helps You Make Passive Income from Crypto Investments?*, CRYPTONEWS (Apr. 4, 2022), <https://cryptonews.com/news/how-staking-helps-you-make-passive-income-from-crypto-investments.htm> [<https://perma.cc/9JLY-EE7Z>]; *What Is Staking In Crypto?*, BINANCE ACADEMY (Sept. 26, 2012) <https://academy.binance.com/en/articles/what-is-staking> [<https://perma.cc/W224-QXZW>] (“Simply put, staking is the act of locking cryptocurrencies to receive rewards.”). See also *What is Staking?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-is-lightning> [<https://perma.cc/V39P-TMKN>] (last visited Sept. 17, 2023).

<sup>149</sup> “Income from farm products and crop-share rentals [is] to be included in the return of income for the year in which sold or exchanged for money or a money equivalent.” T.D. 2153, 17 TREAS. DEC. INT. REV. 1, 101 (1915).

through the actions of the stakers, like widgets in the case of a manufacturer or crops in the case of a farmer. Rather, Staking Rewards are generated by a software protocol and then delivered to the staker in exchange for taking certain actions relating to the software protocol's consensus mechanism.<sup>150</sup>

In addition, the fact that stakers are compensated with new token rewards for the maintenance of the network displays how there is an economic incentive for participants in the network to "stake" their crypto. The Staking Rewards are compensated only to those who help maintain a cryptocurrency network. These tokens are rewarded to the staker for their contribution to maintaining the system. Consequently, such reward or compensation should give rise to income under the normal tax rules. The report of the New York State Bar Association Tax Section on "Cryptocurrency and Other Fungible Digital Assets," published on April 18, 2022 (the "2022 NYSBA Report"), similarly concluded that "while the taxpayer's actions led to its receipt of the Staking Rewards, the Staking Rewards were not created by the taxpayer's actions (which simply involve validating transactions involving other units of the same cryptocurrency)."<sup>151</sup>

b. *Income Characterization of the Staking Rewards.* After determining that Staking Rewards are "income" under current law, the next question that arises concerns the characterization of such income. Arguably, Staking Rewards are analogous to interest income (section 61(a)(4)), and in some cases they might also be classified as business income (section 61(a)(2)) if the staker is engaged in the trade or business of "staking," based on the applicable tests.

(i) *Staking Rewards Are Analogous to Interest Income.* Unlike mining, Staking activity, in substance, is very similar to a passive investment. Any participant who contributes to the PoS system typically earns a Staking Reward, unlike PoW where miners need to employ large sums of computational power in order to increase their chances of validating a new block. In PoS, once the software is setup, the validation is carried out by self-executing software. The staker needs only to maintain a computer with internet access; download, install, and operate the software for the PoS protocol; and ensure that the computer is online and connected to the internet at all times of the staking process.<sup>152</sup> These limited activities of the stakers are in general insufficient to constitute a trade or business.<sup>153</sup> The staking process is, in effect, similar to passive investment activity; Staking Rewards should thus generally be treated as passive income.

Staking is analogous to an interest-earning deposit since it is akin to lending or depositing the tokens in the network for the purpose of maintaining the network. The reward that the stakers receive for depositing

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<sup>150</sup> 2022 NYSBA REPORT, *supra* note 92, at 47.

<sup>151</sup> 2022 NYSBA REPORT, *supra* note 92, at 47.

<sup>152</sup> See Hamano, *supra* note 142, at 400.

<sup>153</sup> Hamano, *supra* note 142, at 400.

or lending out tokens to the network is analogous to the interest charge for the aforementioned deposit. In general, in an interest-earning deposit the interest amount is calculated based on the amount of the deposit and the length of time the deposit is maintained. It works the same way in the staking process. The more tokens the participant stakes, and the more time has passed, the more he earns in Staking Rewards. All stakers receive a reward in the native crypto of the specific blockchain, which is generally distributed in the network in proportion to each staker's stake. Thus, Staking Rewards, fundamentally, are similar to interest income on a deposit and should be characterized as such for tax purposes.

One difficulty with the classification of the Staking Rewards as interest income is determining the source of such income. Generally, interest income is sourced to the tax residence of the payor.<sup>154</sup> In this case, the payor is an open-source software protocol which is not a legal entity located in a specific jurisdiction, *i.e.*, it does not have a tax residence.

To address this difficulty, one approach that is worth considering is a recipient-based sourcing rule as proposed by the report of the 2022 NYSBA Report.<sup>155</sup> The 2022 NYSBA Report suggests that the Service issue guidance providing that the source of Staking Rewards is determined by the tax residence of the recipient. This approach will provide certainty to taxpayers, reduce electivity, and reduce withholding complexity on Staking Rewards received by non-U.S. persons, while at the same time will ensure that U.S. taxpayers who receive such rewards must treat them as U.S.-source income.<sup>156</sup>

(ii) *Staking Rewards Are Not Analogous to Stock Dividends.* One might suggest that the Staking Rewards should be classified as taxable distributions or stock dividends.<sup>157</sup>

However, it's hard to see the analogy to taxable distributions, as there is no corporation that issues or distributes such Staking Rewards to the relevant staking participants. Also, since tokens are not capital, it's difficult to conceptualize them as stock dividends. Other elements of stock distributions also do not appear to be present, including earnings and profits of the company (dividends are paid out of the company's earnings and profits). Thus, for the aforementioned reasons, classifying Staking Rewards as stock dividends is not the appropriate treatment for tax purposes.

## V. Taxation of Disposal or Exchange of Cryptocurrency

As already discussed, the 2014 Notice treats cryptocurrencies as property for federal income tax purposes. Thus, the general tax principles applicable to property transactions will equally apply to cryptocurrency-based

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<sup>154</sup> I.R.C. § 861(a)(1).

<sup>155</sup> 2022 NYSBA REPORT, *supra* note 92, at 53.

<sup>156</sup> 2022 NYSBA REPORT, *supra* note 92, at 53–54.

<sup>157</sup> I.R.C. § 61(a)(7).

transactions. This means, among other things, that taxpayers would realize gain or loss upon the disposal of cryptocurrencies, for example, in the sale or exchange of crypto for goods or services. This also means that an exchange of a coin of cryptocurrency for another coin of cryptocurrency will be treated as a taxable exchange.

Arguably, any attempt to tax what happens within the digital wallets is unrealistic. Moreover, the treatment of a crypto-to-crypto exchange as a taxable event is not aligned with the principle of tax neutrality as such treatment is unduly burdensome and unreasonable. If each time a taxpayer exchanges one form of crypto for another kind of crypto triggers a reportable taxable event, that will presumably make the participation in such swaps unduly burdensome and unreasonable, and thus will deter crypto users from engaging in such crypto swaps.

Therefore, we think that crypto should be taxed only when it meets the “real-world economy”—*i.e.*, when it is exchanged for “real-world” value—when crypto is exchanged either for goods or services, fiat money (legal tender), or other non-crypto assets. This approach will ease the administrative burden and simplify the taxation of cryptocurrencies.<sup>158</sup>

#### A. *Crypto-to-Crypto Transactions*

Because the current Service guidance treats crypto as property, the exchange of cryptocurrency for another cryptocurrency would be treated similarly to the exchange of cryptocurrency for property. Thus, the amount of gain or loss realized on the sale will be the difference between the taxpayer’s basis in the cryptocurrency exchanged for and the fair market value of the cryptocurrency received as of the date of the exchange.<sup>159</sup> But we think that the crypto-to-crypto exchange should not be considered as a taxable event. In this scenario, no gain or loss should be recognized in a case of crypto-to-crypto exchange/swap. Rather, the taxation of crypto should be deferred until it meets the real-world economy. As will be explained below, however, tax-free treatment for crypto-to-crypto transactions would require statutory and regulatory changes.<sup>160</sup>

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<sup>158</sup> According to the 2020 OECD Report, a small number of countries indicated that the first taxable event happens only on disposal, *i.e.*, when the cryptocurrency is first exchanged, or otherwise disposed of. 2020 OECD REPORT, *supra* note 35, at 24–25.

<sup>159</sup> Gain or loss is realized when property is exchanged for cash or property differing materially either in kind or in extent. Reg. § 1001-1(a) (2015).

<sup>160</sup> As a comparative view, crypto-to-crypto exchanges are not taxed in Austria. See *Tax Treatment of Cryptocurrencies*, *supra* note 94. (“Trading one cryptocurrency for another cryptocurrency does not constitute a disposal, and such trades are not taxed. In addition, any expenses associated with such trades (such as transaction costs) are not deemed significant for tax purposes, and are therefore not taxed at the time of the trade. In this situation, the acquisition costs of the transferred cryptocurrencies are carried over to the cryptocurrency acquired in the trade.”).



Generally, the defining characteristic of crypto is its volatility. Because it is very volatile, it is hard to measure gain or loss when crypto is exchanged for other crypto. Basis is hard to determine, and any gain may be illusory and disappear the next minute in the event the token's value were to plummet. Fundamentally, our proposal is similar to the treatment of unrealized appreciation. Unrealized appreciation is not taxed because the public does not believe in Haig-Simons taxation — at least for regular taxpayers — because the public is (presumably) aware that, until realization, the appreciation of real-world items like stocks may be illusory and fleeting.<sup>161</sup> If appreciated stocks are not taxed until realization, the more volatile crypto similarly should not be taxed until it is realized by being exchanged for real-world items.

More specifically, the proposal to treat crypto-to-crypto exchanges in a tax-free manner is due to the following reasons: (1) the general difficulty of determining whether there is an “accession to wealth” in the crypto-to-crypto swaps and the ability to determine if they reflect the true change in the economic wealth of the parties at the moment of the exchange; and (2) the desire to ease the massive administrative burden and mitigate the valuation problem associated immediate taxing of crypto-to-crypto exchanges, which occur with relatively high frequency. These reasons are developed further in the following sections.<sup>162</sup>

### 1. *Difficulty of Determining whether there is an “Accession to Wealth” in a Crypto-to-Crypto Exchange*

As explained earlier, per the *Glenshaw Glass* test, the taxpayer has income only in “instances of undeniable accessions to wealth...” In general, in crypto-to-crypto exchanges, it is hard to determine that there is an “undeniable accession to wealth” to any of the transacting parties which can justify imposing tax at the time of the exchange. This difficulty is attributable to a defining characteristic of crypto, which is its volatility. Both the value of the exchanged asset and the received asset would generally be highly uncertain

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<sup>161</sup> Zachary D. Liscow & Edward G. Fox, *The Psychology of Taxing Capital Income: Evidence From a Survey Experiment on the Realization Rule*, JOURNAL OF PUB. ECON. (forthcoming Nov. 2021). The results of the Survey could be interpreted to indicate that most people like a \$1031-type regime: about 76% want to tax gains on stock that's been sold versus never taxing them. 58% want to tax sold stock that is reinvested versus 42% who want carryover. Same with homes: 63% want to tax gains on a sale versus never taxing it. If the proceeds of the sale of the house are reinvested into another home, about 50% want to tax gains now, and 50% want carryover.

<sup>162</sup> According to the 2020 OECD Report, most countries consider crypto-to-crypto exchanges as a taxable event. A handful number of countries, on the other hand, do not consider any exchanges made by individuals to be a taxable event for the holder of the cryptocurrency 2020 OECD REPORT, *supra* note 35, at 27. For example, in Portugal, following a ruling by the Portuguese Tax Authority in 2016, exchanges in cryptocurrencies are not treated as taxable income in most cases because they do not fall within the definition of capital gains or of capital income for tax purposes.

and volatile, even on a hourly basis. This is different from receiving crypto as part of mining or staking, where it is clear that the taxpayer receives an asset with value which results in a clear increase in economic wealth, regardless of the value of such asset. Due to the highly fluctuating value of cryptocurrencies, in a crypto-to-crypto exchange there could be an accession to wealth at some moment, shortly followed by a decrease in wealth and vice versa.<sup>163</sup> Therefore, crypto-to-crypto exchanges that happen in the digital world do not really reflect the true change in the economic wealth of the parties at the moment of the exchange because of the inherent uncertainty in the timing and valuation of crypto received and exchanged. Therefore, it is more appropriate to recognize the inherent gain or loss in the crypto received when such crypto meets the real-world economy, for only then can the taxpayer calculate the amount above or below the basis of the relevant crypto.

This approach is also consistent with the Service position on a similar matter—taxing wagering gains or losses. In a Service Memorandum from December 2008 on “Reporting of Wagering Gains and Losses,” the Service addresses the issue of how a casual gambler determines wagering gains and losses from slot machine play. The Service explains that:

The better view is that a casual gambler, such as the taxpayer who plays the slot machines, recognizes a wagering gain or loss at the time she redeems her tokens. We think that the fluctuating wins and losses left in play are not accessions to wealth until the taxpayer redeems her tokens and can definitively calculate the amount above or below basis (the wager) realized.<sup>164</sup>

Conceptually, wagering tokens are very similar to crypto tokens in the sense that both live in “unreal” world. What happens in this “unreal world” should not be taxed since it is difficult to determine if there has been an “accession to wealth” in such an unreal world. Therefore, similar tax treatment should apply to transactions that happen in the unreal digital world, such as crypto-to-crypto exchanges.<sup>165</sup>

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<sup>163</sup> Crypto-to-crypto exchanges include a wide range of activities held in the crypto world, such as bridges, in which it is hard to determine if there is a decrease or accession to wealth in the hands of the parties involved. See, for example, bridge contracts, as Matt Levine described them in his book: “A big bridge contract will have a lot of crypto locked up in it, will need to regularly send and receive crypto from strangers, and will have to interoperate between different environments. If you can find a bug in a bridge, you can make a lot of money. People do that pretty regularly. An actual big Solana/Ethereum bridge is called Wormhole; it was hacked this year for about \$320 million of wETH.” Levine, *supra* note 48, at 42.

<sup>164</sup> I.R.S. Gen. Couns. Mem. AM2008-011 (Dec. 5, 2008).

<sup>165</sup> Similar logic to our proposal of not taxing what happens in the “unreal world” is applied in Bryan T. Camp’s article, *Taxation of Electronic Gaming*, 77 WASH. & LEE L. REV. 661 (2020), where the author proposes that in the context of electronic gaming, no gross income should be recognized until cash-out. As the author illustrates, this proposal is aligned with the understanding of the realization concept as a legal doctrine which “operationalize[s] the economic theory of

It should be noted that this proposal does not apply to exchanges of Stablecoins, since the concern respecting the difficulty in determining the “accession to wealth” does not exist in this case. Also, while the proposal of treating crypto-to-crypto exchanges in a tax-free manner might be the proper tax treatment at this moment, future changes in the crypto world might require the reconsideration of this proposal. For example, with the increase in the adoption and use of crypto by the general public, it might be would be harder to justify distinguishing crypto-to-crypto exchanges from other property-to-property exchanges.<sup>166</sup>

## 2. *Mitigating the Administrative Burden*

The tax-free treatment of crypto-to-crypto transactions would address the administrative challenge associated with taxing cryptocurrency due to the difficulty associated with tracking this kind of transaction.<sup>167</sup>

Crypto-to-crypto transactions occur between digital wallets, entirely within the digital world, with no connection or interaction with the real-world economy. This makes these transactions hard to track by the Service, especially considering the nature of these exchanges which happen in very large frequencies and sometimes even in very short time segments within a single wallet.

Moreover, the volatility feature of cryptocurrencies, along with the valuation challenge, impose a significant compliance hurdle for taxpayers who are required to report gain or loss for each crypto-to-crypto exchange.<sup>168</sup> The fact that crypto networks are peer-to-peer based networks makes it difficult in many cases to determine the selling price of each crypto in a crypto-to-crypto swap. Determining the fair market value of both the crypto exchanged and received is not clear even in cases where such cryptocurrencies are listed in crypto exchanges. The question that arises in this case is whether

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income into an administrable legal regime.” This approach thus solves the practical problem of taxing virtual gaming.

<sup>166</sup> See Doerge, *supra* note 95, at 63 (“non-recognition treatment for like kind cryptoasset transactions would be more consistent with both the traditional policy justifications for valid like kind transactions and fundamental policy concerns of all tax policy than the prevailing tax policy related to cryptoassets.”).

<sup>167</sup> See Paul C. Nylen, *Imposing a Deadline on the IRS: Artificial Intelligence Tries to Beat Starcraft While the IRS Tries to Regulate Virtual Currency*, 52 AKRON L. REV. 945, 960 (2018). From a virtual currency perspective, this policy provides substantial relief for taxpayers that are unable to accurately report the change in their virtual currency portfolio every time Bitcoin is exchanged for Ethereum or any other exchange between virtual currencies.”

<sup>168</sup> Taxable cryptocurrency transactions are significantly underreported. Jen Wiczner, *Bitcoin Investors Aren't Paying Their Cryptocurrency Taxes*, FORTUNE (Feb. 13, 2018), <https://fortune.com/crypto/2018/02/13/bitcoin-cryptocurrency-tax-taxes/> [<https://perma.cc/K5RH-7RNA>].

taxpayers should use the market value of one crypto exchange or average the several exchanges that may be used and which timeframe to use.<sup>169</sup>

In addition, generally, in asset-to-asset exchanges there is always a problem of cash flow/liquidity of taxpayers when it comes to taxation. This liquidity problem is bigger in the case of crypto-crypto exchanges due to the uncertainty regarding the value of the crypto exchange on the specific date of the exchanges. In cases of extreme volatility in the value of crypto, taxpayers will need to sell the newly exchanged crypto for fiat currencies in order to be able to pay their possibly significant tax liabilities.<sup>170</sup>

The exchange of Stablecoins does not raise similar concerns<sup>171</sup>; therefore, the suggested treatment should not apply to exchanges of this kind of cryptocurrency.<sup>172</sup>

### 3. Tax Free Treatment Requires a Statutory and Regulatory Change

The proposal of a tax-free treatment at the time of a crypto-to-crypto transaction requires statutory and regulatory changes. Section 1031, which addresses “like-kind exchanges,” should be amended to include all kinds of cryptocurrencies. By including crypto-to-crypto exchanges in the definition of “like-kind exchanges,” the taxation of such transactions will be deferred until the cryptos involved meet the real-world economy.

a. *Section 1031—Like-Kind Exchanges.* Under section 1031, no gain or loss shall be recognized when certain property held for productive use in trade or business or for investment is exchanged for property “of a like kind.”<sup>173</sup> The tax basis in the exchanged property carries over to the received property. The recognition of the inherent gain or loss in the exchanged property at the day of the transfer is deferred until a later disposition or exchange of the new received property for fiat currency or other non-like-kind property.<sup>174</sup>

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<sup>169</sup> GIRASA, *supra* note 49, at 186.

<sup>170</sup> See Waerzeggers & Aw, *supra* note 104, at 229.

<sup>171</sup> See, e.g., 2020 OECD REPORT, *supra* note 35 at 43 (“valuation should in theory be easier to determine in the case of stablecoins, as their face value is more stable; as a backup, they can also be valued by reference to the value of the underlying assets.”).

<sup>172</sup> The Biden administration is considering ways to impose bank-like regulation on the cryptocurrency companies that issue stablecoins. Andrew Ackerman & AnnaMaria Andriotis, *Biden Administration Seeks to Regulate Stablecoin Issuers as Banks*, WALL ST. J. (Oct. 1, 2021), [https://www.wsj.com/articles/biden-administration-seeks-to-regulate-stablecoin-issuers-as-banks-11633103156?mod=article\\_inline](https://www.wsj.com/articles/biden-administration-seeks-to-regulate-stablecoin-issuers-as-banks-11633103156?mod=article_inline) [<https://perma.cc/MH3Q-T4YL>].

<sup>173</sup> I.R.C. § 1031. This is a mandatory provision (not elective). Many items were traditionally excluded from this section, like stock, bonds, or section 1221(a)(1) property.

<sup>174</sup> Doerge, *supra* note 94, at 64 (“The main policy justification for specific non-recognition of like kind transactions has been based on a “continuity of investment” rationale... the policy intuition is that when a taxpayer exchanges two substantially similar assets with comparable interests in the assets, then the situation is treated as one continuing investment.”).

The world “like kind” is not defined in section 1031. Before the Tax Cuts and Jobs Act (“TCJA”), “like-kind exchanges” were limited, under the Treasury regulations, to the exchanges of depreciable personal property. The 2014 Notice, which classified cryptocurrency as property, did not provide guidance regarding the application of section 1031 to cryptocurrencies. As of 2018, the TCJA went into effect. Under the new Post-TCJA section 1031, “like-kind exchanges” include only real property, which means that they do not include cryptocurrencies.

b. *Crypto-to-Crypto Exchanges Prior to 2018 – Pre-TCJA Section 1031.* One of the interesting questions that arise is whether crypto-to-crypto exchanges made before 2018 were tax free exchanges under the old Pre-TCJA section 1031, which (as mentioned) also applied to exchanges of intangible property.

According to the Treasury Regulations issued under section 1031, effective prior to 2018 (the “1031 Regulations”),<sup>175</sup> an exchange of intangible personal properties qualifies under section 1031 only if the exchanged properties are of a like kind. The regulation clarifies that “whether intangible personal property is of a like kind to other intangible personal property generally depends on the nature or character of the rights involved (e.g., a patent or copyright) and also the nature or character of the underlying property to which the intangible personal property relates.”<sup>176</sup>

Thus, there is essentially a two-prong test. The first test concerns for the rights involved and the second test concerns the underlying property to which the rights relate (the “Two-Prong Test”). It is reasonable to argue that exchanging one Bitcoin for another Bitcoin would satisfy the Two-Prong Test and that, accordingly, that would have been considered as a like-kind exchange under section 1031 as in effect prior to 2018. Technology-wise, Bitcoins are virtually identical digital coins, subject to the same function and crypto network. And they also include the same rights to the same underlying type of property.<sup>177</sup> However, it is very uncertain whether exchanging non-similar kinds of cryptos, such as the exchange of Bitcoin for an Ether, would satisfy the Two-Prong Test. Both currencies might represent rights that are of a like kind, per the first prong of the Two-Prong Test, but they may not have rights to the same underlying property, per the second prong of the Two-Prong Test, due the differences between the two currencies which rely in two different consensus mechanisms (PoW vs. PoS).<sup>178</sup> Therefore, it is

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<sup>175</sup> Reg § 1.1031(a)-2(c) (1).

<sup>176</sup> Sarah-Jane Morin, *Tax Aspects of Cryptocurrency*, PRACTICAL TAX LAWYER 56, 61 (2018).

<sup>177</sup> See Morin, *supra* note 176, at 62.

<sup>178</sup> See Morin, *supra* note 176, at 62.

likely that the exchange of Bitcoin for Ether would not be considered a “like-kind” exchange under the 1031 Regulations.<sup>179</sup>

Thus, presumably, many other crypto-to-crypto exchanges would not qualify as a “like kind” for purposes of section 1031 as in effect prior to 2018. This may include cryptos which are very similar in nature but have differences in specific functions.<sup>180</sup>

c. *Amending Section 1031 and the 1031 Regulations.* In order for crypto-to-crypto exchanges to be entitled to the tax-free treatment at the time of the exchange as we propose, section 1031 should be amended to explicitly set forth that crypto-to-crypto exchanges are “like-kind exchanges” for the purposes of the section. The other option would be to go back and resurrect the prior version of section 1031 (before the TCJA) followed by a regulatory change in order to make section 1031 applicable to crypto swaps. In the latter case, the 1031 Regulations would have to be modified to clearly set forth that crypto-to-crypto exchanges are “like-kind exchanges” that would be examined under the Two-Prong Test.<sup>181</sup>

## B. *Real-World Crypto Transactions*

### 1. *Proposal of a Bifurcated Tax Treatment*

Cryptocurrency can meet the real-world economy once it is disposed of or exchanged for goods or services, fiat currency, or another non-crypto asset.

As explained earlier on this paper (in Part II), taxing cryptocurrency activity that is connected to the real-world economy should be based on the principle of tax neutrality. This means that taxation should follow the nature and use of the cryptocurrency in question, in addition to the purpose for which the cryptocurrency was acquired and disposed of. Achieving tax

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<sup>179</sup> In G.C.M. 202124008 (June 8, 2021), the Service determined that, if completed prior to January 1, 2018, an exchange of (i) Bitcoin for Ether, (ii) Bitcoin for Litecoin, or (iii) Ether for Litecoin does not qualify as a like-kind exchange under section 1031. In explaining why Bitcoin and Ether do not qualify as like-kind property under section 1031, the CCA explains that “while both cryptocurrencies share similar qualities and uses, they are also fundamentally different from each other because of the difference in overall design, intended use, and actual use. The Bitcoin network is designed to act as a payment network for which Bitcoin acts as the unit of payment. The Ethereum blockchain, on the other hand, was intended to act as a payment network and as a platform for operating smart contracts and other applications, with Ether working as the “fuel” for these features. Thus, although Ether and Bitcoin may both be used to make payments, Ether’s additional functionality differentiates Ether from Bitcoin in both nature and character.”

<sup>180</sup> For further insights on how the former section 1031 section rules would apply in crypto-to-crypto transactions, see Nysten, *supra* note 167 at 960–63.

<sup>181</sup> Amending section 1031 to specifically include exchanges of cryptocurrencies is preferable than expanding the definition of “like-kind exchanges” or replacing it with a broad definition. That is because the broader the definition, the larger the opportunity for tax-deferral for barter exchanges (other than crypto-to-crypto exchanges) which could be problematic for other policy considerations.

neutrality between crypto transactions and traditional transactions (*e.g.*, transactions with fiat currencies or transactions with non-crypto assets) will ensure that the taxation of crypto activity does not impede the use of cryptocurrencies and harm the development of the crypto industry.

In order to guarantee tax neutrality, the tax treatment of crypto should be determined based on the following elements: (1) the holding period of the cryptocurrency; and (2) the underlying economic function such currency serves in the particular transaction—*i.e.*, whether the cryptocurrency is held for investment, or it is held for use as currency.<sup>182</sup>

In the current environment, where common cryptos (*e.g.*, Bitcoin or Ether) are widely used to acquire goods or services and have even been adopted as an official currency by a foreign country (such as El Salvador)<sup>183</sup>, crypto should be classified by the Service as a foreign currency, rather than as property, unless it is held for over one year (measured from the date a particular crypto is acquired, which can be ascertained from the public ledger). If the crypto is held for more than one year, it should be deemed to be an investment, *i.e.*, property.

It is suggested that these set of rules are administrable because, on the one hand, they build on the existing law, and on the other hand because one may ascertain from the public ledger the holding period and the basis of each unit of crypto.

As can be noticed, the proposed hybrid/bifurcated tax regime is based on a bright-line test that divides cryptocurrencies into two distinct categories.

The first category includes short-term crypto transactions. When cryptocurrencies are held for a short period (under a year) and are used as a tool for payment to acquire goods or services, their function is similar to the function of money and regular fiat currencies. Therefore, the tax treatment of this category should be subjected to the Code's rules for foreign exchange. Firstly, a de-minimis rule should apply—no gain should be recognized if the transaction is in the amount of \$200 or less. Secondly, basic accounting rules

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<sup>182</sup> Achieving tax neutrality is also associated with achieving equity, which is one of the fundamental criteria for evaluating a tax policy. See Doerge, *supra* note 95, at 68–69; see also *id.* at 73 (“[B]ecause cryptoasset transactions are analogous to either foreign currency transactions or like kind exchanges, equity demands that they be treated similarly in these circumstances. And, conversely, an equitable policy would not treat cryptoasset transactions the same as generic property transactions where the two are not analogous.”).

<sup>183</sup> Bitcoin is now legal tender in El Salvador. Joe Hernandez, *El Salvador Just Became the First Country To Accept Bitcoin As Legal Tender*, NPR (Sept. 7, 2021), <https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency> [<https://perma.cc/89VT-GR3U>].

applicable to foreign currency should apply to cryptocurrency in this category.<sup>184</sup>

The second category encompasses long-term crypto transactions. When cryptocurrencies are held for over a year, their function is similar to an investment (*i.e.*, holding an asset for investment purposes in anticipation of the asset's appreciation over time). Therefore, cryptocurrencies in this category should be treated as a property<sup>185</sup>, and the current rules of the 2014 Notice should apply. In that case, the sale or exchange of the crypto for goods or services would give rise to long-term capital gain or loss depending on the basis of the crypto used in the sale or exchange.

This proposed hybrid/bifurcated treatment should not apply to stablecoins and/or to NFTs due to their unique features which distinguish them from the other kinds of cryptocurrencies. We propose different tax treatment for stablecoins and/or NFTs upon sale or exchange, as elaborated in Sections 5 and 6 below.

## 2. Short-Term Crypto Transactions—Cryptocurrency as Money

a. *Tax Treatment of the Short-Term Crypto Transactions as Property Impedes Crypto Adoption and Development.* As mentioned earlier, the 2014 Notice regards cryptocurrencies as property. The result has been that transactions in which cryptocurrencies are used to buy goods or services are treated as giving rise to gains or losses. The treatment of cryptocurrencies as property impedes the adoption of cryptocurrencies as mediums of exchange. This outcome appears unreasonable, especially because cryptocurrencies have become much more ubiquitous,<sup>186</sup> and have been adopted by at least one sovereign nation as its official currency. In the 2023 Notice, the Service itself has recognized that certain foreign jurisdictions have enacted laws that characterize Bitcoin as legal tender. However, the 2023 Notice sets that this does not affect the guidance under the 2014 Notice, which concludes, among other things, that cryptocurrency is not treated as currency that could generate foreign currency gain or loss for U.S. federal tax purposes. The authors think

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<sup>184</sup> In 2017, Representatives Jared Polis, D-Colorado, and David Schweikert, R-Arizona (who were co-chairs of the Congressional Blockchain Caucus), introduced a similar bill, the Cryptocurrency Tax Fairness Act. H.R. 3708, 115th Cong. (2017) The bill would exclude the first \$600 (adjusted for inflation) of gain from a single cryptocurrency transaction (or a series of related transactions) from gross income for U.S. federal income tax purposes. The intention of the bill, according to the sponsors, is to permit purchases by digital payments for small purchases, all without concern about the tax implications. The bill was not included as part of the TCJA. *See id.*

<sup>185</sup> *See* Marchant et al., *supra* note 1, at 424 (“The concept of property is a settled principle in both civil and common law countries. There are certain traditional parameters which determine the categorization of a tangible/intangible object as a ‘legal property’ subject to private ownership.”).

<sup>186</sup> According to recent research, since 2018, cryptocurrency ownership has gone from 2% of the population to 12% as of December 2022. Michael Weber et al., *supra* note 96, at 11.



it is necessary that the Service to re-evaluate its guidance for the reasons explained below.

The tax consequences of treating crypto as property in cases where it can be used to acquire good or service are generally negative for taxpayers, and thus limit the general adoption of crypto as a medium of exchange. If crypto is property, then any time it is used to acquire a good or service, gain must be recognized if the amount realized, *i.e.*, the value of the property or service received (which is presumably equal to the value of the crypto surrendered) exceeds basis, and loss must be recognized if basis exceeds the amount realized.<sup>187</sup>

This treatment of crypto as property can lead to serious complications when used to acquire goods or services. First, the value of crypto can fluctuate rapidly and so it is hard to establish at any given moment, so that it may be necessary to establish the value of the good or service instead, which can be difficult, too. Second, it is burdensome to establish tax basis for the crypto because cryptos are fungible and, consequently, the determination of basis has to be made among the various crypto blocks held. Given that cryptocurrency may be traded in very high frequencies, it is onerous to track such basis for small transactions.<sup>188</sup> Also, the taxpayer has an incentive to use the highest basis crypto first among the blocks to minimize gain or maximize loss. Third, for the same reason, the taxpayer can choose the crypto with the longest holding period to create long term capital gain and the shortest holding period to create short term capital loss.<sup>189</sup> Fourth, when the taxpayer acquires crypto in an initial coin offering (“ICO”), the tax basis is unclear.

Thus, the taxation of cryptocurrencies as property is very burdensome on the daily users of cryptocurrency. If someone uses crypto to buy a burger at a fast-food restaurant or a coffee from a coffee shop, he will be required to calculate and declare gain or loss in each of these transactions. Not only would crypto users potentially incur tax liability every time they purchase something

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<sup>187</sup> This gain or loss will be short or long-term depending on the taxpayer’s holding period in the crypto.

<sup>188</sup> See Morin, *supra* note 176, at 58.

<sup>189</sup> Under the current Service guidelines, a taxpayer who owns multiple units of the same virtual currency, some of which are acquired at different times and have different tax bases, can choose which units of virtual currency are deemed to be sold, exchanged, or otherwise disposed of if the taxpayer can identify which units of virtual currency are involved in the transaction and tracks its basis in those units. *Frequently Asked Questions on Virtual Currency Transactions*, IRS, <https://www.irs.gov/individuals/international-taxpayers/frequently-asked-questions-on-virtual-currency-transactions>, at Q&A-39 (lasted visited Apr. 2, 2023). The taxpayer may identify a specific unit of virtual currency either by unit’s unique digital identifier, such as a private key, public key, or address, or by records reflecting the transaction information for all units of a CVC held in an account, wallet, or address. *Id.* at Q&A-40. If the taxpayer does not identify specific units of virtual currency, the units are deemed to have been sold, exchanged or otherwise disposed of in chronological order beginning with the earliest unit of the virtual currency purchased or acquired (first-in, first-out). *Id.* at Q&A-41.

with crypto, but they would also have to pay attention to which crypto they were spending to manage their tax liabilities.<sup>190</sup> This task is complicated by the fact that these cryptocurrencies can fluctuate in price significantly within a single day.<sup>191</sup> Therefore, given this tax treatment, it is safe to assume that absent clear incentives to use crypto, the attractiveness of using cryptocurrencies for daily transactions would be greatly inhibited, and most taxpayers would likely use real currency to avoid these complications.<sup>192</sup>

b. *Short-Term Crypto Functions as Money/Real Currency.* Cryptocurrencies used in short-term transactions operates in a similar manner of fiat currency (legal tender) or as a substitute for money.<sup>193</sup> If crypto behaves like money and it is used like real currency, then it should be treated in the same manner as money for tax purposes, if the objective is to achieve neutrality.

(i) *The Three Functions of Money.* Money serves three basic functions: as a unit of account, a medium of exchange, and a store of value.<sup>194</sup> A unit of account is used to denominate the prices of goods and services, creating a concrete way to express value. A medium of exchange can be used in financial transactions, including the purchase of goods and services. A store of value is a way to maintain the purchasing power of one's earnings or wealth over time.<sup>195</sup> Short-term cryptocurrency has generally all the three aforementioned functions.

Cryptocurrency is a digital representation of value that is widely used now to denominate the prices of goods or services, thus functioning as a "unit of account."<sup>196</sup> Cryptocurrency can be used to make payments and can be subjectively accepted by the parties to a transaction as an alternative to legal tender and objectively treated as a "medium of exchange." Bitcoin, the most dominant cryptocurrency, was intended from its outset to be used as a medium of exchange for financial transactions outside the ambit of traditional institutions and government control. Today, Bitcoin and other major cryptocurrencies are accepted as a payment method by a large number of different businesses and entities in the U.S. and worldwide, including small businesses, major stores, fast foods restaurants, telecommunication

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<sup>190</sup> Chodorow, *Bitcoin*, *supra* note 98, at 377.

<sup>191</sup> See Ahmed, *supra* note 55, at 713.

<sup>192</sup> See Chodorow, *Bitcoin*, *supra* note 98, at 378.

<sup>193</sup> 53A Am. Jur. 2d *Money* § 6 (2022)

<sup>194</sup> EUROPEAN CENTRAL BANK, VIRTUAL CURRENCY SCHEMES 13–14 (Oct. 2012).

<sup>195</sup> See PRASAD, *supra* note 2, at 24.

<sup>196</sup> Since Bitcoin, for example, exists purely in digital form, it can in principle be sliced, subject to technical constraints, to small fragments that could facilitate transactions for very small amounts. Each Bitcoin is equal to one hundred million Satoshis, making the Satoshi the smallest unit of Bitcoin currently recorded on the blockchain. See PRASAD, *supra* note 2, at 127.

companies, coffee shops, airlines companies etc.<sup>197</sup> Even several law firms and universities started to accept Bitcoin or Ether as a payment.<sup>198</sup>

Cryptocurrencies can also function as a “store of value.” For example, it is widely accepted that Bitcoin can effectively serve as a store of value, especially in an inflationary macroeconomic environment.<sup>199</sup> Bitcoin, which is referred to as “digital gold,” came to be seen as a store of value as people put their savings in it, and investors bet on its price. In addition, there are even financial products and derivatives that are linked to its price.<sup>200</sup> The absolute cap on the amount of Bitcoin that can be created (someday there will be 21 million Bitcoins after which no more can be created<sup>201</sup>) is generally perceived as an attractive feature that ensures Bitcoin’s reliability as a store of value that is invulnerable to debasement through an increase in supply, in contrast to fiat money, which can be created without limit by central banks.<sup>202</sup> Thus, despite its volatility, Bitcoin can be an inflation-proof store of value unlike regular money that can be expanded indefinitely, which has led to hyperinflation in the several countries. Certain traditional currencies are subject to volatility as well and have poor store of value as unit of account, but the tax law still recognizes them as currency subject to foreign currency rules under the law.<sup>203</sup>

(ii) *The Nature of Cryptocurrencies under the Case Law.* U.S. courts have begun to address the characterization of crypto as either money or a type of property outside the tax context, and have generally treated it as money. For example, in *United States v. Faiella*, the court determined that

<sup>197</sup> See Ofir Beigel, *Who Accepts Bitcoin as Payment?*, 99BITCOINS, <https://99bitcoins.com/bitcoin/who-accepts/> [<https://perma.cc/RCK4-7XWU>] (last updated Jan. 15, 2023); *Who Accepts Ethereum as Payment? 8 Places You Can Spend ETH*, CRYPTONEWS, <https://cryptonews.com/guides/who-accepts-ethereum.htm> [<https://perma.cc/7Q3G-SX5X>] (last visited Sept. 17, 2023).

<sup>198</sup> The University of Nicosia in Cyprus accepts Bitcoin as a payment method for the tuition fees in respect of its courses, including an MSc in Digital currency. It has also begun to publish diplomas on the Bitcoin blockchain. See University of Nicosia, *Methods of Payment*, <https://www.unic.ac.cy/admission-requirements/financial-information/methods-of-payment/#:~:text=We%20accept%20Bitcoin%20for%20the,make%20a%20payment%20using%20Bitcoin> [<https://perma.cc/TX57-6M22>] (last accessed Oct. 8, 2023).

<sup>199</sup> Arvind Sabu, *Realization’s Vexations: Taxing Cryptocurrency Hard Forks*, 61 JURIMETRICS (forthcoming Spring 2021) (manuscript at 16) (manuscript available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3888713#:~:text=Relatedly%2C%20the%20indeterminate%20value%20of,key%20to%20concerns%20over%20valuation](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3888713#:~:text=Relatedly%2C%20the%20indeterminate%20value%20of,key%20to%20concerns%20over%20valuation) [<https://perma.cc/U9A8-JCEY>]).

<sup>200</sup> See PRASAD, *supra* note 2, at 108.

<sup>201</sup> The limit of 21 million bitcoins is hardcoded into the algorithm. Eswar Prasad, *The Brutal Truth About Bitcoin*, BROOKINGS INSTITUTION (July 20, 2021), <https://www.brookings.edu/articles/the-brutal-truth-about-bitcoin/> [<https://perma.cc/9997-YPD5>].

<sup>202</sup> See PRASAD, *supra* note 2, at 108, 126.

<sup>203</sup> See Waerzeggers & Aw, *supra* note 104, at 222-23.

Bitcoin is money for purposes of anti-money-laundering law because it is used as a medium of exchange and is in wide circulation.<sup>204</sup> In *Shavers*, the court held that “Bitcoin has a measure of value, can be used as a form of payment, and is used as a method of exchange. As such, the Bitcoin investments in this case can satisfy the ‘investment of money’ prong set out by the Supreme Court in *Howey*.”<sup>205</sup> In *United States v. Ulbricht*, the court held that a “money laundering statute is broad enough to encompass use of Bitcoins in financial transactions.”<sup>206</sup> In a dissenting opinion in *Wisc. Cent. Ltd. v. United States*,<sup>207</sup> Justice Breyer suggested that, in the context of the Railroad Retirement Tax Act of 1937, “money” might one day include crypto currency.

Moreover, what we view as money has changed over time... [P]erhaps one day employees will be paid in Bitcoin or some other type of cryptocurrency, see F. Martin, *Money: The Unauthorized Biography—From Coinage to Cryptocurrencies* 275-278 (1st Vintage Books ed. 2015). Nothing in the statute suggests the meaning of this provision should be trapped in a monetary time warp, forever limited to those forms of money commonly used in the 1930’s.<sup>208</sup>

From a comparative perspective, the Court of Justice of the European Union (ECJ) in the *Hedqvist* case<sup>209</sup> addressed the tax treatment of cryptocurrencies for VAT purposes. The court took the view that the exchange of traditional currencies for units of Bitcoin and other “non-traditional currencies” is a financial transaction and thus VAT exempt under Article 135(1)(e) of the EU VAT Directive, despite the explicit reference in that provision to “currency, bank notes and coins used as legal tender.” The court ruling applies to “non-traditional currencies, that is to say, currencies other than those that are legal tender in one or more countries, insofar as those currencies have been accepted by the parties to a transaction as an

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<sup>204</sup> 39 F. Supp. 3d 544, 545 (S.D.N.Y. 2014).

<sup>205</sup> SEC v. Trendon T. Shavers & Bitcoin Sav. & Tr., No. 4:13-CV-416, 2014 U.S. Dist. LEXIS 194382, at \*17 (E.D. Tex. Aug. 26, 2014).

<sup>206</sup> 31 F. Supp. 3d 540, 570 (S.D.N.Y. 2014). See also *United States v. Murgio*, No. 15-cr-769, (AJN) (S.D.N.Y., Jan. 12, 2017) (Bitcoins “function as pecuniary resources and are used as a medium of exchange and a means of payment”). But see *Florida v. Espinoza*, F14-2923 (Fla. 11th Cir., 22 July 2016), which held that Bitcoins “are not a commonly used means of exchange” and thus are not money.

<sup>207</sup> *Wisc. Cent. Ltd. v. United States*, 138 S. Ct. 2067, 2076.

<sup>208</sup> *Id.*

<sup>209</sup> The judgement of the Court of Justice of the European Union (ECJ) in *Skatterverket v. David Hedqvist Case C-264/14* (“Hedqvist”). The European Union has jurisdiction over VAT rules throughout the EU so that decisions of the ECJ as to the application of VAT will generally have force in all EU countries.

alternative to legal tender and have no purpose other than as a means of payment.”<sup>210</sup>

### 3. *Treating Short-Term Crypto as Foreign Currency*

a. *Achieving Neutrality by Taxing Short-Term Cryptocurrencies as Foreign Currency.* In the previous sections, we showed that the current tax treatment of crypto as property, including crypto used for short-term transactions, would impede the adoption of crypto as a medium of exchange even in cases where they are used as such. We also showed that cryptocurrency used for daily transactions functions fundamentally as a real currency. Against this backdrop, if the purpose is to achieve tax neutrality, the tax system should tax short-term cryptocurrencies in the same manner that it taxes real currency. Short-term cryptocurrencies should thus be treated either as “functional currency” or as “nonfunctional/foreign currency” under the Code. Since “functional currency” has a definitive meaning under the Code, which is “the dollar,”<sup>211</sup> the only option left for cryptocurrency is to be treated as a “nonfunctional currency” or “foreign currency” which is governed under section 988.

Despite containing detailed rules on how to treat nonfunctional/foreign currency for tax purposes, neither section 988 nor its extensive regulations define the term “nonfunctional currency.” This term is also not defined anywhere else in the Code or in the case law.<sup>212</sup> This is not surprising, given that, until recently, it was commonly understood that a foreign currency was something created by a country and accepted as legal tender.<sup>213</sup> The 2014 Notice states that Bitcoin is not accepted as legal tender in any jurisdiction, implying that a foreign currency may be a currency if it is accepted as legal tender by a foreign country. However, there is nothing to imply that the meaning of foreign currencies under the Code is money that is government-created and accepted as a legal tender. Moreover, now that El Salvador accepts Bitcoin as a legal tender, with the anticipation that other countries would follow, this implies that cryptocurrency can fit within the technical

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<sup>210</sup> A few European countries considered cryptocurrencies to be similar to currency for tax purposes: this is the case in Belgium, Italy and Poland. For instance, in Italy, the Italian tax authority has indicated in private rulings that virtual currencies are akin to foreign currency, taking the decision by the ECJ in relation to *Hedqvist* further than VAT to also cover income taxation. 2020 OECD REPORT, *supra* note 35, at 23.

<sup>211</sup> Section 985(b)(1)(A) states the general rule that the functional currency will be “the dollar.”

<sup>212</sup> *AMP Inc. v. U.S.*, 185 F.3d 1333 (Fed. Cir. 1999), is a case that discusses foreign currency for tax purposes in the context of foreign tax credits. The case discusses whether the cruzeiro or the Brazilian Readjustable National Treasury Bond (*Obrigação Reajustável do Tesouro Nacional*), which was an official index used to address inflation, should be considered Brazil’s functional currency. The court found that the cruzeiro was the functional currency but did not address the broader question of whether a non-state created currency can be considered as a foreign currency.

<sup>213</sup> See Chodorow, *Bitcoin*, *supra* note 98, at 379.

traditional understanding of foreign currency being as a legal tender issued by a foreign country.<sup>214</sup>

Prior to the 1986 Tax Reform Act,<sup>215</sup> the Service treated foreign currency as property. However, Congress changed the treatment of foreign currencies because of the problems related to defining currency within existing property frameworks.<sup>216</sup> Section 988 sets out the tax treatment of foreign currencies. This section, along with the Treasury regulations, has provided two important sets of rules that make the tax treatment of “foreign currency” preferential to its treatment as normal property. These rules are a *de minimis* exception and the basis rules.<sup>217</sup>

b. *Tax Consequences of Treatment of Cryptocurrencies as a “Foreign Currency.”* The treatment of short-term cryptocurrency as “foreign currency” would make it subject to the foreign currency exchange rules under the Code. As noted, these rules most importantly include:

- (1) The De-Minimis Exception: the short-term cryptocurrency transactions would be eligible for the \$200 personal use exemption; and
- (2) Basis Rules: the foreign currency basis accounting rules will apply to cryptocurrency.

(i) *The De-Minimis Rule.* In general, section 988 establishes that those who use foreign currency to acquire goods or services have to report currency gains and losses if the currency has changed value between the time it was acquired and when it was spent. However, section 988(e) has provided a personal-use exemption for currency gains, so long as the gain is under

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<sup>214</sup> Adam Chodorow in his 2016 paper claimed that even if a specific foreign country adopts Bitcoin as its formal currency, Bitcoin should not be treated as a foreign currency for U.S. tax purposes given the special features of the virtual currencies (*e.g.*, instability) and to avoid ceding too much power to other countries. See Chodorow, *Bitcoin*, *supra* note 98, at 383. However, we do not see why there shall be a difference between this and regular foreign currency from that perspective.

<sup>215</sup> Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2086.

<sup>216</sup> See Johnson, *supra* note 96, at 665.

<sup>217</sup> One may suggest that if crypto held for more than a year would be excluded from the foreign currency treatment, why shouldn't the foreign currency held for more than one year also be excluded? That is, if the notion is that currency held for more one year should be treated as an investment asset, why wouldn't that be true for both cryptocurrency and foreign currency? This brings us back again to the policy justifications that underly the existence of the bright-line rule. These include seeking simplicity in the taxation of cryptocurrencies and achieving certainty among taxpayers. These policy justifications (along with other factors mentioned in this Article) do not exist when the taxation of real foreign currency is at issue.

\$200.<sup>218</sup> Any reportable gains, that is over \$200, will be treated as ordinary income and taxed as such.<sup>219</sup>

By treating short-term cryptocurrencies as a foreign currency, it will enjoy the de minimis exception. The de minimis exception will make the taxation of cryptocurrency more administrable.

From the administrative perspective, a de minimis exception would reduce the burdensome task of reporting gain or loss on small purchases with crypto that is characterized as being volatile. Applying the de minimis exception to short-term crypto transactions is thus compatible with the rationale for the personal-use exemption as enacted in 1997. The legislative history of section 988(e) stated the reasons for the change as follows.

...If an individual must treat foreign currency in this instance as property giving rise to U.S.-dollar income or loss every time the individual, in effect, barter the foreign currency for goods or services, the U.S. individual living in or visiting a foreign country will have a significant administrative burden that may bear little or no relation to whether U.S.-dollar measured income has increased or decreased. The Committee believes that individuals should be given relief from the requirement to keep track of exchange gains on a transaction-by-transaction basis in de minimis cases.<sup>220</sup>

Moreover, the de minimis treatment in this case will mitigate the significant administrative burden for the Service as well. This treatment will allow the Service to place its focus on larger transactions,<sup>221</sup> and would presumably increase the number of crypto users who report earnings from the use of cryptocurrency. This would be in line with the Service's objective to increase tax reporting by cryptocurrency investors.<sup>222</sup>

(ii) *Applying Foreign Currency Basis Rules.*

(a) *The problems with applying stand-alone basis to short-term crypto transactions.* In the 2014 Notice, the Service clarified that the general tax principles applicable to property transactions will apply to cryptocurrency-based transactions.<sup>223</sup> The 2014 Notice also explained that the normal basis rules will apply to cryptocurrencies,<sup>224</sup> indicating that each cryptocurrency will have its own stand-alone basis.<sup>225</sup> As mentioned earlier, basis determination issues and their associated reporting requirement impose a massive burden on taxpayers and seems excessive for those who would use

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<sup>218</sup> I.R.C. § 988(e).

<sup>219</sup> Reg. § 1.988-3(a).

<sup>220</sup> STAFF OF THE JOINT COMM. ON TAX'N, 105<sup>TH</sup> CONG., GENERAL EXPLANATION OF TAX LEGISLATION ENACTED IN 1997 (Dec. 17, 1997).

<sup>221</sup> See McNeely, *supra* note 97, at 535.

<sup>222</sup> McNeely, *supra* note 97, at 536–37.

<sup>223</sup> Rev. Rul. 2014-21 at § 4, Q&A-1.

<sup>224</sup> *Id.* at § 4, Q&A-4, Q&A-6.

<sup>225</sup> See Chodorow, *Bitcoin*, *supra* note 98, at 394–95.

cryptocurrency to make a significant number of purchases. A party that accepts numerous cryptocurrencies in any given day will have to track the value of the cryptocurrency received.<sup>226</sup> The taxpayer would need to maintain strict records of each transaction involving cryptocurrency in order to ensure compliance with the Service basis rules. This would undoubtedly be an onerous task, if not impossible in some cases.<sup>227</sup> The volatility of cryptocurrencies compounds the problem for businesses willing to accept crypto as payment. In addition, partial unit sales increase the problem of determining basis. When an individual acquires units of cryptocurrency at different times for different values per unit, they will need to disaggregate such transactions in order to determine the relevant basis for the specific transaction.<sup>228</sup>

Another problem with stand-alone basis is that because of the fungibility of short-term cryptocurrencies that function similarly to a fiat currency, it would allow crypto users to “cherry-pick” their basis, thus potentially allowing them to manipulate the tax treatment. Taxpayers can manipulate the basis rules by choosing the basis that would result in maximum losses and minimum gains. Taxpayers can also time their dispositions of crypto to generate artificial gains to utilize losses or artificial losses to offset gains.<sup>229</sup> Taxpayers, when selling cryptocurrency, can also manipulate basis rules to change the holding period since the Code allows a taxpayer to choose any share as the one being sold (not just the first or the last). This would allow a taxpayer to report the basis from sale on the cryptos that have been in his wallet the longest or the shortest, creating long-term capital gains which enjoy the lowest and more favorable tax rates, or short-term ordinary losses.<sup>230</sup>

Applying the foreign currency basis rules to short-term cryptocurrencies would solve the above-mentioned concerns.

(b) *Foreign Currency Basis Rules.* If a taxpayer maintains a single bank account in a foreign currency, the adjusted basis of a specific expenditure from the account is very hard to determine since there is no way to actually track the amounts deposited. Therefore, the Service has established special basis accounting rules for foreign currency commingled in a single account.<sup>231</sup> The regulations allow the taxpayer to determine the adjusted basis “under any reasonable method that is consistently applied from year to year.”<sup>232</sup> The regulations permit taxpayers to elect any method for designating which funds are withdrawn and used, so long as it is reasonable and consistently applied

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<sup>226</sup> See Ankier, *supra* note 44, at 898.

<sup>227</sup> See Ankier, *supra* note 44, at 898.

<sup>228</sup> See Ankier, *supra* note 44, at 899.

<sup>229</sup> See Johnson, *supra* note 96, at 658.

<sup>230</sup> Johnson, *supra* note 96, at 657.

<sup>231</sup> See Chodorow, *Bitcoin*, *supra* note 98, at 371.

<sup>232</sup> Reg. § 1.988-2(a)(2)(iii)(B).



from year to year.<sup>233</sup> Methods include First in First Out (FIFO), Last in First Out (LIFO), and pro rata, under which the basis of all the batches is pooled together and then allocated to each unit of currency based on relative fair market value, such that each unit of currency has the same, average basis.<sup>234</sup> However, a method that ensures that the highest basis currency is used first—that is, one that ensures the lowest possible currency gains—will not be considered reasonable.<sup>235</sup>

Crypto currencies held for short-term use function as money, and they are fungible in much the same way money is. There is no reason to allow taxpayers to cherry-pick, manipulate the basis and minimize gains. Therefore, a short-term crypto should be subjected to foreign currency basis rules. Doing so would eliminate unnecessary complexity for crypto users and ensure that they were not able to manipulate the basis rules to minimize their tax burdens.<sup>236</sup>

#### 4. *The Bifurcated Treatment and the Necessity for a Bright-Line Rule*

As mentioned above, the standard we propose is that short-term crypto transactions, which should be treated as a foreign currency, should be defined as cryptocurrency held for a short period of time (one year or less) and used to acquire goods or services, while if the cryptocurrency is held for more than a year, it should be treated as property. Differentiating between these two groups based on this bright-line rule will mitigate the administrative burden associated with a case-by-case approach, *i.e.*, trying to find the correct classification of crypto in each transaction.

While the case-by-case approach can theoretically can lead to a more accurate result, it will require examining the subjective purpose of the crypto user to determine whether the crypto should be treated as money or property. Variations in the underlying economic activity that can be performed by a specific token,<sup>237</sup> however, makes it generally hard to ascertain the subjective purpose of the crypto holder in using the crypto in a specific case. The case-by-case approach might require the Service to use formulas and tracking, which it does not have at the moment, in order to determine if a specific wallet or account is held for investment purposes or for daily use. This task is extremely difficult from an administrative perspective, which makes enforcing such a proposed rule to be logistically impossible, unless new technologies develop in the future to address this concern.<sup>238</sup>

On the other hand, the bright-line rule enables taxpayers to comply with it and tax authorities to enforce it effectively. Therefore, regardless of the

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<sup>233</sup> Reg. § 1.988-2(a)(2)(iii)(B).

<sup>234</sup> Reg. § 1.988-2(a)(2).

<sup>235</sup> Reg. § 1.988-2(a)(2).

<sup>236</sup> See Chodorow, *Bitcoin*, *supra* note 98, at 371.

<sup>237</sup> See Waerzeggers & Aw, *supra* note 104, at 221.

<sup>238</sup> See Ahmed, *supra* note 55, at 725.

theoretically correct result in each specific case, in order to avoid administrative hassles, a standard must be developed to make the taxation of crypto more administrable. Because cryptocurrencies are becoming so common, it is important not to tax them in ways that make compliance very difficult for both individuals and the government.

Taxation in accordance with the bright-line rule should apply to the disposition or exchange of cryptocurrencies regardless of the form by which they were received. This should also apply to other forms of dealings with crypto, including, for instance, crypto loans.

It is important to note that while the proposed bifurcated regime is the appropriate treatment at the moment, changes in the crypto world might require the reconsideration of such tax treatment. For example, a very wide acceptance and usage of cryptocurrency by the general public (along with government designation) might require even considering treating it as functional currency and not as a foreign currency in the future.

### 5. *Stablecoins—Proposed Tax Treatment*

Achieving tax neutrality by taxing stablecoins based on their special nature requires different tax treatment than the bifurcated tax treatment proposed above for the other kinds of cryptocurrencies. Stablecoins are cryptocurrencies which are backed by fiat currencies to ensure stable valuation of the tokens.<sup>239</sup> Given their special feature in having a more stable value and an asset backing, stablecoins resemble money and fiat currencies.<sup>240</sup>

Stablecoins, irrespective of their holding periods, have the traditional functions of money. For instance, Facebook's cryptocurrency's Diem (previously called Libra)—fully backed by a reserve consisting of major hard currencies such as the U.S. dollar and the euro—is meant to function mainly as “medium of exchange.”<sup>241</sup> Also, stablecoins function generally as a “store of value.”<sup>242</sup> For instance, tokens that are issued by well-known nonfinancial corporations, such as Diem and Amazon Coins,<sup>243</sup> could be seen as stores of value as well, given the scale and apparent stability of these corporations and

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<sup>239</sup> Ensuring stable valuation is achieved either through off-blockchain legal arrangements (for example, a sponsor that holds itself out as willing to redeem the stablecoin for the underlying fiat currency or reference asset) or through algorithms that, among other things, may create or destroy units of the digital asset as necessary to maintain price stability.

<sup>240</sup> For example, the value of the USD Coin (USDC) is meant to stay as close as possible to \$1. USDC is backed by actual dollars stored at financial institutions. Elvis Picardo, *USD Coin (USDC): Definition, How It Works in Currency, and Value*, INVESTOPEdia (Aug. 31, 2023), [https://www.investopedia.com/usd-coin-5210435#:~:text=USD%20Coin%20\(USDC\)%20is%20a,stable%2C%20making%20USDC%20a%20stablecoin](https://www.investopedia.com/usd-coin-5210435#:~:text=USD%20Coin%20(USDC)%20is%20a,stable%2C%20making%20USDC%20a%20stablecoin) [<https://perma.cc/48LF-SLN7>].

<sup>241</sup> See PRASAD, *supra* note 2, at 10.

<sup>242</sup> PRASAD, *supra* note 2, at 10.

<sup>243</sup> Amazon Coins can already be used to buy games and apps on Amazon's platform, and it is reasonable to assume that such tokens could eventually be used for trading a broader range of goods on the Amazon platform. See PRASAD, *supra* note 2, at 126.

the financial power they command.<sup>244</sup> Other kinds of Stablecoins are used to earn interest (typically higher than what a bank would offer for depositing fiat currency) on a stablecoins investment.<sup>245</sup>

Therefore, since stablecoins, in their essence, function as money, we propose the following tax treatment for stablecoins:

(1) Stablecoins which are backed by foreign currency (currency other than the U.S. dollar), or a basket of different currencies, should be treated as foreign currency for all Code purposes irrespective of their holding period, and the applicable foreign currency rules should apply as explained above.<sup>246</sup>

(2) Stablecoins which are backed only by the U.S. dollar should be treated as property for tax purposes and should be subject to a de minimis rule establishing that taxpayers do not need to report income in transactions below a specified threshold, irrespective of the holding period.<sup>247</sup> This treatment aligns with the nature of stablecoins, which resembles money in its function and use. We recommend that the Treasury and the Service study how best to establish such a threshold, which may change over time. It should be noted that, recently, a few bills were introduced in Congress aiming to introduce a de minimis rule for crypto transactions. The last bill was introduced in July 2022 by Senators Patrick Toomey (R, PA) and Kyrsten Sinema (D, AZ). This bipartisan bill, named the “Virtual Currency Tax Fairness Act” aims to make small crypto transactions of up to \$50 exempt from capital gains tax.<sup>248</sup> Similar provisions have been introduced to Congress in a bipartisan bill raised in February 2022 by Representatives Suzan DelBene, David Schweikert, Darren Soto, and Tom Emmer that had set the threshold benchmark at \$200.<sup>249</sup> In June 2022, Senators Cynthia Lummis (R, WY) and Kirsten Gillibrand (D, NY) introduced a comprehensive crypto bill that, among many other things, also sought to exempt taxes on all crypto transactions smaller than \$600.<sup>250</sup> We agree on introducing such de minimis rule, limited only to small transactions with stablecoins that are backed by the U.S.

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<sup>244</sup> See PRASAD, *supra* note 2, at 126.

<sup>245</sup> *What Is a Stablecoin?*, *supra* note 36.

<sup>246</sup> The G7 Working Group on Stablecoins suggests considering treating stablecoins as foreign currencies for tax purposes, or alternatively as securities, with a tax liability linked to the fluctuation in the stablecoin’s value relative to the fiat currency to which it is pegged. See G7 Working Group on Stablecoins, *Investigating the Impact of Global Stablecoins* 11 (2019), <https://www.bis.org/cpmi/publ/d187.pdf> [<https://perma.cc/32X6-ECYM>].

<sup>247</sup> Section 985(b)(1)(A) defines the functional currency as “the dollar.” Thus, stablecoins backed by the U.S. dollar cannot be treated as functional currency under the Code provisions.

<sup>248</sup> Virtual Currency Tax Fairness Act, S. 468, 117th Cong. § 2 (2022).

<sup>249</sup> Virtual Currency Tax Fairness Act of 2022, H.R. 6582, 117th Cong. § 2 (2022).

<sup>250</sup> Lummis-Gillibrand Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

dollar. On the other hand, transactions in cryptocurrency other than stablecoins should be subject to the bifurcated tax treatment as described above.

(3) We are aware that some recent types of stablecoins are meant to be backed by assets such as gold and commodities, rather than fiat currencies. This type of stablecoin should be treated as property for tax purposes and not be subject to the bifurcated tax treatment described above, as they lack the function of money.

### 6. *Non-Fungible Tokens (“NFTs”)—Proposed Tax Treatment*

NFTs are powering the new iteration of the World Wide Web based on blockchain technology, which incorporates decentralization, privacy, and tokenization of digital assets and is commonly referred to as “Web3.” NFTs are a special kind of crypto in which each token is unique, as opposed to “fungible” currency like Bitcoin and dollar bills, which are all worth exactly the same amount. Because every NFT is unique, they can be used to authenticate ownership of digital assets like artworks, recordings, and virtual real estate, pets, etc.<sup>251</sup> NFTs are created or “minted” on marketplace platforms like OpenSea, Rarible, or Foundation and then listed for primary sale or secondary resale. Each has a digital signature that is unique and impossible to be exchanged for or equal to another.<sup>252</sup> Similar to other cryptocurrencies, NFTs have also soared in popularity in the last few years.<sup>253</sup>

The Service has recently issued Notice 2023-27,<sup>254</sup> in which it announces that the Service intends to issue guidance on the treatment of NFTs as collectibles under section 408(m),<sup>255</sup> and proposes a “look-through analysis” for purposes of making this determination.<sup>256</sup> The Service requested

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<sup>251</sup> *What Is a Non-Fungible-Token (NFT)?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-are-nfts> [<https://perma.cc/WKN8-BXQW>] (last visited Sept. 19, 2023).

<sup>252</sup> Sonia K. Kothari & Louis Lehot, *Tax Considerations for Transactions of Non-Fungible Tokens*, 175 TAX NOTES FED. (TA) 729 (May 2, 2022).

<sup>253</sup> NFTs grew to an estimated \$338 million in 2020. Abram Brown, *What Is An NFT—And Should You Buy One?* FORBES (Feb. 26, 2021), <https://www.forbes.com/sites/abrambrown/2021/02/26/what-is-an-nft-and-should-you-buy-one/?sh=54726bb424b2> [<https://perma.cc/FNT3-QMBA>].

<sup>254</sup> Notice 2023-27, 2023-15 I.R.B. 634.

<sup>255</sup> Section 408(m) provides that the acquisition of any “collectible” (as such term is defined in section 408(m)(2), e.g., work of art) by an individual retirement account or an individually directed account in a section 401(a) qualified plan is treated as distribution from the account equal to the cost of the collectible.

<sup>256</sup> Under the “look-through analysis,” an NFT would be treated as a “work of art” under section 408(m) if its “associated right” is a section 408(m) “work of art.”

comments on the proposed look-through analysis as well as on certain related questions regarding the tax treatment of NFTs.<sup>257</sup>

In the authors' view, NFTs are akin to a capital asset. Therefore, NFTs should be treated as property for tax purposes and should not be subject to the bifurcated tax treatment described above, as they lack the function of money. The holders of an NFT that represents a specific asset are effectively co-owners of the asset, and therefore the tax treatment of any payments arising from ownership of the NFT should be the same as that of the income arising from the underlying digital asset.<sup>258</sup> In cases where NFT sales are transacted in cryptocurrency and not fiat currency, the proposed tax-free treatment of crypto-to-crypto exchanges should not apply, as the concerns that underlie the taxation of crypto swaps are not applicable to the NFT world, most importantly the administrative burden and the volatility aspect of the fungible fiat cryptocurrencies.

Moreover, the creation of an NFT generally should not be taxable until the creator sells or exchanges the NFT. If the creator receives ongoing income through a "smart contract" that automatically provides a payment when the NFT is used or sold,<sup>259</sup> then this income should be classified as royalty income for tax purposes, similar to royalty payments on patents, copyrights, and other intellectual property assets.<sup>260</sup>

### C. *Additional Tax Aspects*

While the 2014 Notice explains that cryptocurrency shall be classified as property, it does not address whether cryptocurrency should be treated as a capital asset, security, or commodity. The regulatory agencies other than the Service are split. The SEC treats crypto as an investment and sometimes as a security,<sup>261</sup> while the CFTC treats it as a commodity (property).<sup>262</sup> Each

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<sup>257</sup> For the recommendations of the New York State Bar Association Tax Section, see N.Y. STATE BAR ASS'N TAX SEC., REPORT ON NOTICE 2023-27 AND NONFUNGIBLE TOKENS (NFTS) (2023).

<sup>258</sup> See Waerzeggers & Aw, *supra* note 104, at 227.

<sup>259</sup> A creator can use a smart contract to build into the marketplace the desired economics of secondary sales, royalties, transaction costs, and other terms of use following the primary sale.

<sup>260</sup> Kothari & Lehot, *supra* note 252.

<sup>261</sup> Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, Exchange Act Release No. 81,207 (July 25, 2017), <https://www.sec.gov/files/litigation/investreport/34-81207.pdf> [<https://perma.cc/VR2V-WWF2>].

<sup>262</sup> Nathan A. Howell, *CFTC Asserts Jurisdiction Over Bitcoin Derivatives*, SIDLEY (Nov. 2015), <https://www.sidley.com/en/insights/publications/2015/12/cftc-asserts-jurisdiction-over-bitcoin-derivatives> [<https://perma.cc/X7DZ-D9K7>]. In June 2020, the CFTC published final interpretive guidance providing that it views all "virtual currency" as a commodity for purposes of the Commodity Exchange Act, under a broad definition of virtual currency that would appear to cover all cryptocurrency and virtually all other fungible digital assets. Retail Commodity Transactions Involving Certain Digital Assets, 85 Fed. Reg. 37734 (June 24, 2020).

agency seems to be treating crypto in the way that will maximize its regulatory power over it.<sup>263</sup> This could result in unclarity in the tax law since the classification of crypto as a security or commodity is relevant in determining the tax treatment of crypto under some tax provisions.

It should be noted that the recent Infrastructure Act that created new information reporting requirements for “digital assets” defined for these purposes as a new asset category that is distinct from securities and commodities, both of which are already subject to existing information reporting rules. However, nothing in the Infrastructure Act’s statutory language or legislative history indicates that the creation of a special category for digital assets in the information-reporting context means that digital assets cannot fall within an existing asset category (for example, securities or commodities) for purposes of other Code provisions.<sup>264</sup>

### 1. *Crypto with Security-Like Features*

In late 2017, the SEC noted that certain types of cryptocurrencies, particularly those used in ICOs to raise business capital, have “key hallmarks of a security and a securities offering [and] involve the offer and sale of securities.”<sup>265</sup> The SEC also stated that whether or not a particular token used in an ICO is a security depends on the facts and circumstances of each case.<sup>266</sup> Thus, there is no clear guidance regarding when cryptocurrencies are considered by the SEC as securities and when they are not. The classification as security is even more unclear when it comes to the traditional cryptocurrencies such as Bitcoins or Ether.<sup>267</sup>

a. *Wash Sale Rules.* A “wash sale” is a purchase of a stock or security less than 30 days after a prior sale at a loss. A taxpayer’s purpose in executing a wash sale is to sell a stock at the end of a tax year to generate a loss for tax purposes and then repurchase the stock after the beginning of the new year

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<sup>263</sup> For instance, where cryptocurrencies are deemed as security, then the SEC has wide powers to regulate or even prohibit the exchange of cryptocurrencies.

<sup>264</sup> 2022 NYSBA REPORT, *supra* note 92, at 10.

<sup>265</sup> Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings*, SEC. AND EXCH. COMM’N (Dec. 11, 2017), <https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11> [https://perma.cc/3M8S-NJMF].

<sup>266</sup> Press Release, Sec. and Exch. Comm’n, SEC Issues Investigative Report Concluding DAO Tokens, A Digital Asset, Were Securities (July 25, 2017), <https://www.sec.gov/news/press-release/2017-131> [https://perma.cc/AR8F-3R28].

<sup>267</sup> In 2018, William Hinman, Director of Corporation Finance at the SEC, stated: “When I look at Bitcoin today, I do not see a central third party whose efforts are the key determining factor in the enterprise. The network on which Bitcoin functions is operational and appears to have been decentralized for some time, perhaps from inception.” William Hinman, *Remarks at the Yahoo Finance All Markets Summit: Crypto*, SEC. AND EXCH. COMM’N (June 14, 2018), <https://www.sec.gov/news/speech/speech-hinman-061418> [https://perma.cc/SZG9-YK4F].

to regain an investment position. In this case, section 1091(a) disallows such losses (“Wash Sales Rules”).<sup>268</sup>

But do the Wash Sales Rules that apply to “stocks and securities” apply also to crypto? The Service’s classification of crypto as property might suggest that the rules do not apply to cryptocurrencies.<sup>269</sup> However, this remains unclear.

The classification of crypto as property means that a crypto holder could sell cryptos to generate artificial losses through churning.<sup>270</sup> On the other hand, if crypto is considered as a security, and the taxpayer receives a crypto and exchanges it in less than 30 days after receiving it, the Wash Sales Rules would disallow claiming any losses, if applicable. The lack of clarity as to whether the Wash Sales Rules apply to cryptocurrencies not only results from the unclarity of the crypto’s classification by the SEC, but also to the fact that the term “securities” in tax law is not the same as “securities” for security regulation purposes. For example, in the corporate tax provisions (*e.g.*, section 354) “securities” have been defined by the courts much more narrowly as only long-term bonds, because the purpose of that section is to limit tax-free reorganization treatment to transactions meeting the continuity-of-investor-interest rule. A court is therefore likely to interpret “securities” in section 1091 as similar to “positions” in section 1092 (see below),<sup>271</sup> precisely because not applying the Wash Sale Rules to crypto would defeat the purpose of the rule, namely to prevent taxpayers from harvesting losses while maintaining their economic interest in the property being sold and repurchased within 30 days.

Moreover, even if the term “securities” is interpreted narrowly to exclude traditional cryptocurrencies like Bitcoin and Ether, the loss may still be disallowed. Treasury Regulation section 1.165-1(b), which governs losses, states that “[o]nly a bona fide loss is allowable. Substance and not mere form shall govern in determining a deductible loss.”<sup>272</sup> In the leading case of *Fender v. United States*,<sup>273</sup> the court relied on this language in holding that a transaction in which bonds were sold at a loss to a party that was owned 40.7% by the seller and then repurchased within 42 days was not allowable even though it avoided the literal application of section 267 (which disallows losses from sales to over 50% related parties) and section 1091 (because the sale and repurchase did not take place within 30 days).

In tax loss harvesting using cryptocurrencies, the taxpayers sell and then repurchase within 60 seconds. We find it hard to imagine that even a

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<sup>268</sup> I.R.C. § 1091(a).

<sup>269</sup> See Fairpo, *supra* note 78, at 263.

<sup>270</sup> See Johnson, *supra* note 96, at 658–59.

<sup>271</sup> Section 1092 is the straddle rule, which refers to “positions,” a much broader term that likely includes all crypto.

<sup>272</sup> Reg. § 1.165-1(b).

<sup>273</sup> 577 F.2d 934 (5th Cir. 1978).

“textualist” judge would determine that such a loss is “bona fide” under the regulation. Therefore, we believe that section 1091 does apply to cryptocurrencies, even in the cases where cryptocurrencies are not considered as “securities” by the SEC.

b. *Mark-to-Market Election.* Another issue associated with classifying crypto as security is the “mark-to-market” election. Dealers in securities may make a mark-to-market election under section 475 with respect to their securities. This election essentially allows the dealers and traders to use the inventory method of accounting for securities and can provide significant tax benefits to those who make this election. The question is whether crypto holders could make this election if the crypto is treated as security.<sup>274</sup>

Cryptocurrency should not be considered as a security for the purposes of mark-to-market accounting under section 475 and the regulations thereunder. The proposal of mark-to-market taxation of digital wallets is problematic for administrative reasons and practically unrealistic to boot. This is mainly due to the volatility issue and the fact that crypto could fluctuate significantly in value. Although the Service might collect revenue in one year, it might need to give a huge amount of refunds in the next year if crypto drops down in value. This could also result in cash-flow issues for taxpayers due to the fluctuations in tax liability stemming from the fluctuations in value of the underlying crypto.<sup>275</sup>

## 2. *Straddle Loophole*

Since cryptocurrencies are currently treated as property, taxpayers can utilize straddles to generate artificial losses to reduce their taxable income. A straddle is a unique derivative instrument that allows an investor to hold simultaneous positions both above and below the market price of a commodity.<sup>276</sup> By using straddles, a taxpayer can lower his or her tax liability by selling a losing position to offset any taxable gain. Typically, an investor utilizes a straddle when a commodity has highly volatile prices because it allows them to hedge their position in the asset and guarantee that their investment would not be affected despite the price volatility.<sup>277</sup> The volatility of the cryptocurrencies market make straddles an appealing avenue for investors.<sup>278</sup>

For example, typically, a relatively low call position designed to generate a small gain would be considered “in-the-money.” Under section 1092, this would be considered a Qualified Cover Call, and all of the loss would be disallowed at the end of the year. However, since section 1092 does not apply

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<sup>274</sup> See Morin, *supra* note 176, at 63.

<sup>275</sup> See Waerzeggers & Aw, *supra* note 104, at 229.

<sup>276</sup> See Johnson, *supra* note 96, at 660.

<sup>277</sup> See Ankier, *supra* note 44, at 900.

<sup>278</sup> See Ankier, *supra* note 44, at 900.



to cryptocurrency (because the straddle would not meet the statutory requirement), at the end of the tax year the taxpayer would simply exercise the option with the larger loss and offset his taxable income by a wide margin.<sup>279</sup> Thus, the current treatment of cryptocurrency as property permits the taxpayers to take advantage of the taxable losses generated by straddles. The 2022 NYBSA Report suggests that fungible digital assets traded on Centralized Cryptocurrency Exchanges (defined as centralized exchanges for the trading of cryptocurrency and other fungible digital assets such as Coinbase and Binance) should be considered actively traded property for purposes of the straddle rules of section 1092 on the basis that the exchanges constitute “established financial markets” within the meaning of applicable Treasury regulations.<sup>280</sup> We agree with this suggestion since the term “positions” under section 1092 is broad and it likely includes a wide range of crypto, particularly the fungible cryptos that are traded on cryptocurrency exchanges.

## VI. Special Crypto Events—Hard Forks and Airdrops

In recent years, as a consequence of the increased popularity of cryptocurrencies, along with the development of blockchain technology, new events and activities have emerged in the crypto world. These emerging new events may potentially create new taxable events for cryptocurrency holders. This part of the Article will address the tax treatment of two of such crypto events: hard forks and airdrops.

### A. *Hard Forks and Airdrops—General*

#### 1. *What is a Hard Fork?*

A hard fork is a change to a network’s protocol that effectively results in two branches, one that follows the previous protocol, and one that follows the new version.<sup>281</sup> Typically, this occurs when nodes in the network add new

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<sup>279</sup> See Johnson, *supra* note 96, at 661–62.

<sup>280</sup> 2022 NYSBA REPORT, *supra* note 92, at 22. The 2022 NYSBA Report suggests that “[t]he government should consider providing a general rule treating cryptocurrencies as commodities for federal income tax purposes if they are subject to the asserted jurisdiction of the CFTC except where: (i) a Code provision specifically contemplates the treatment of cryptocurrencies as a separate asset class, or (ii) the government otherwise provides that cryptocurrencies are not treated as commodities for purposes of a specific Code provision.” *Id.* The Report also suggests that “[t]he commodities trading safe harbors in section 864(b)(2)(B) should be extended to the trading of cryptocurrencies.” *Id.*

<sup>281</sup> Jake Frankenfield, *Hard Fork: What It Is in Blockchain, How It Works, Why It Happens*, INVESTOPEDIA (May 25, 2022), <https://www.investopedia.com/terms/h/hard-fork.asp> [<https://perma.cc/V2SF-A9TY>].

rules in a way that conflicts with the rules of old nodes.<sup>282</sup> Adding a new rule to the code essentially creates a split or a “fork” in the blockchain: one path follows the new, upgraded blockchain, while the other path continues along its same route.<sup>283</sup> Forking events may be initiated by developers or members of a crypto community who are dissatisfied with the functionalities offered by existing blockchain implementation.<sup>284</sup>

A hard fork can happen to any blockchain, and it requires all nodes or users to upgrade to the latest version of the protocol software. Thus, holders of tokens in the original blockchain are granted tokens in the new fork as well.<sup>285</sup> Generally, after the forking event, the value of the original token falls after a hard fork, while the new token acquires value.<sup>286</sup>

The most famous hard fork is the hard fork of Bitcoin in 2017, which created Bitcoin Cash. This hard fork was initiated by participants in the crypto network who believed that Bitcoin’s protocol should be changed to allow blocks of greater size. The increase in the size of the blocks will result in an increase in the transactional capacity of the network.<sup>287</sup> Since there was no consensus on this approach, the portion of the network that supported this approach adopted a software change that raised the block size limit,<sup>288</sup> and thus, Bitcoin Cash was created.<sup>289</sup>

Prior to the hard fork of Bitcoin, the cryptocurrencies Ethereum and Ethereum Classic forked, but for different reasons than the hard fork of Bitcoin.<sup>290</sup> As cryptocurrencies grow to become more popular and pervasive, it is presumed there will be additional disagreements and divergences within different networks. A natural result is an increased likelihood of additional hard forks in the future.<sup>291</sup>

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<sup>282</sup> *Hards Forks and Soft Forks Explained*, BINANCE ACADEMY (Nov. 28, 2018), <https://academy.binance.com/en/articles/hard-forks-and-soft-forks> [<https://perma.cc/9TH9-DVXX>].

<sup>283</sup> The true essence of the fork is a division of each coin of the original currency into two coins of the resulting currencies, much like a subdivision of real property divides a single parcel into separate lots. See David G. Chamberlain, *Forking Belief in Cryptocurrency: A Tax Non-Realization Event*, 24 FLA. TAX REV. 651, 654 (2021).

<sup>284</sup> Frankenfield, *supra* note 281.

<sup>285</sup> Frankenfield, *supra* note 281.

<sup>286</sup> See Waerzeggers & Aw, *supra* note 104, at 236.

<sup>287</sup> See Sabu, *supra* note 199, at 8–9. Bitcoin blockchain can process a limited number of transactions per second. Specifically, Bitcoin’s software permits the creation of blocks under one megabyte in size every ten minutes. That amounts to a maximum of seven transactions per second.

<sup>288</sup> The block size limit was raised to eight megabytes. Sabu, *supra* note 199, at 9.

<sup>289</sup> See Sabu, *supra* note 199, at 9.

<sup>290</sup> See Sabu, *supra* note 199, at 3. The Ethereum blockchain created a hard fork to reverse the hack on the Decentralized Autonomous Organization (DAO). The hard fork helped DAO token holders get their Ether funds returned.

<sup>291</sup> See Sabu, *supra* note 199, at 3.

## 2. *What is a Cryptocurrency Airdrop?*

Airdropping is a marketing tool generally employed by new cryptocurrency enterprises that involves delivering (or “airdropping”) coins or tokens to wallets of current cryptocurrency holders, generally for free.<sup>292</sup> The aim of this is to promote awareness and raise visibility of a new cryptocurrency, thus potentially increasing the level of ownership in the new cryptocurrency.<sup>293</sup> Airdrops can take place before or in conjunction with an ICO and are becoming increasingly popular among token issuers as a marketing method. One of the differences between an “airdrop” and “hard fork” is that in an “airdrop,” token issuers can specify the amounts of tokens that particular users receive. In a hard fork, generally all holders of tokens in the original blockchain are granted tokens in the new fork, as well as on a one-to-one basis.<sup>294</sup>

### B. *Current U.S. Tax Treatment*

With respect to hard forks and airdrops, a question that arises is whether the receipt of the new tokens should be treated as a taxable event, and if so, how must the value of the new tokens be ascertained. In October 2019, the Service issued Revenue Ruling 2019-24, which attempts to provide answers to these questions (the “2019 Notice”).<sup>295</sup>

#### 1. *The 2019 Notice*

The 2019 Notice clarifies the treatment of both hard forks and airdrops. Further, the 2019 Notice clarifies how current tax principles apply to these special crypto transactions.

The 2019 Notice describes two situations: the first situation occurs when there is a hard fork that results in the creation of a new cryptocurrency that is not “airdropped” or transferred to the wallet of the taxpayer following the hard fork. The second situation occurs when there is a hard fork that results in the creation of a new cryptocurrency where the new crypto is transferred through “airdropping” to the wallet of the taxpayer.

For the first situation, the 2019 Notice provides that since the taxpayer did not receive a new cryptocurrency from the hard fork, the taxpayer does

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<sup>292</sup> In some cases, users have to complete simple promotional activities before they can claim the coins or tokens, such as following the project’s social media account and sharing their posts. Jake Frankenfield, *Cryptocurrency Airdrop: What Is It and How Does It Work*, INVESTOPEDIA (Sept. 13, 2022), <https://www.investopedia.com/terms/a/airdrop-cryptocurrency.asp> [<https://perma.cc/NG7G-SH8W>].

<sup>293</sup> Frankenfield, *supra* note 281.

<sup>294</sup> Eric D. Chason, *Cryptocurrency Hard Forks and Revenue Ruling 2019-24*, 39 VA. TAX REV. 279, 282 (2019).

<sup>295</sup> Rev. Rul. 2019-24, 2019-44 I.R.B. 1004.

not have an accession to wealth and does not have gross income under Section 61.<sup>296</sup>

For the second situation, the 2019 Notice provides that under Section 61, the taxpayer has gross income, ordinary in character, as result of the “airdrop” of the new cryptocurrency following the hard fork. This is because the taxpayer receives new cryptocurrency following the airdrop, which constitutes an “accession to wealth,” and the taxpayer has “dominion and control” over the new cryptocurrency at the time of the airdrop, as the taxpayer has the ability to dispose of the new cryptocurrency. The amount included in gross income is equal to the fair market value of the new airdropped cryptocurrency when the airdrop is recorded on the distributed ledger. The basis of the taxpayer in the new cryptocurrency is equal to the amount of the income recognized.<sup>297</sup>

## 2. *The Drawbacks of the 2019 Notice*

The 2019 Notice incorrectly describes (and commingles) hard forks and airdropping, which are two separate and distinct events.<sup>298</sup> Generally, in a hard fork, all holders of a token in the original blockchain are granted a token in the new fork as well. For example, Bitcoin owners received new units of Bitcoin Cash on a one-to-one basis following the 2017 hard fork. The receipt of the new tokens as part of the hard fork is not done through “airdropping.” Once the hard fork happens, all past transactions of the original cryptocurrency are replicated and the new tokens are created. The network participants creating the hard fork take no additional steps to transfer the new tokens to the other participants in the network.<sup>299</sup> The description in the 2019 Notice that the hard fork created additional transactions that are recorded on a distributed ledger is simply not accurate. By cloning the original blockchain, the hard fork itself creates the new cryptocurrencies which are recorded in the blockchain at the time of the hard fork, without any affirmative steps taken by the crypto holders.<sup>300</sup> Therefore, the description of the hard fork event by the Service is mistaken, and the distinction between the two situations described in the 2019 Notice is not accurate.

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<sup>296</sup> For the definition of income under the 2019 Notice, the Service relies on *Glenshaw Glass*, 348 U.S. 426.

<sup>297</sup> Rev. Rul. 2019-24, 2019-44 I.R.B. 1004.

<sup>298</sup> The Report of the New York State Bar Association Tax Section on the “Taxation of Cryptocurrency” also refers to this confusion in the 2019 Notice between hard forks and airdrops and recommends that “the Service clarify that airdrops as generally understood within the cryptocurrency community do not typically occur in connection with hard forks and that the Service revise the Ruling accordingly.” N.Y. STATE BAR ASS’N TAX SEC, REPORT ON THE TAXATION OF CRYPTOCURRENCY 8 (2020) [hereinafter “2020 NYSBA REPORT”].

<sup>299</sup> See Chason, *supra* note 294, at 282.

<sup>300</sup> See Chason, *supra* note 294, at 282.

Since all crypto holders in the network receive new tokens as part of the hard fork, the 2019 Notice results in the immediate taxation of such new tokens in the hands of the crypto holders. This result is problematic for two reasons: (1) it is not the proper tax treatment of hard forks, as hard forks are akin to a software upgrade of the blockchain that should not trigger a taxable event, as explained below; (2) this result assumes that the hard fork happens at an exact time and that the new tokens have readily ascertainable value at that specific time. Both assumptions are wrong. First, it is immensely difficult to assert the precise time of the hard fork (for example, it's hard to identify a specific point of time when the Bitcoin hard fork occurred<sup>301</sup>). Second, it is generally impossible to ascertain the value of the new tokens when they are created or issued, as they are distinct from the original tokens. As such, any decrease or increase in the value of the original tokens does not necessarily indicate the value of the new tokens, as it may be a result of network effects due to the forking event, or a result of a variety of other factors.<sup>302</sup>

### C. Proper Tax Treatment

#### 1. Hard Fork

a. *Analogy to Stock Dividends.* It can be argued that a hard fork is analogous to a pro rata stock dividend (also known as “stock split”) and should be treated as such for tax purposes. In this case, the determination of whether a hard fork should be taxed as gross income is analyzed under the framework of *Eisner v. Macomber*,<sup>303</sup> a predecessor to the *Glenshaw Glass* case, or under sections 305 and 306 which followed the *Macomber* case and govern stock distributions.<sup>304</sup>

Despite the possible similarities between hard forks and pro-rata stock distributions, hard forks should not be treated as such for tax purposes.

First, it is difficult for a hard fork to be analyzed under the *Macomber* case, due to some fundamental differences between hard forks and stock splits. In *Eisner v. Macomber*, the Supreme Court confronted the question of whether the Sixteenth Amendment<sup>305</sup> empowered Congress to include stock dividends in the tax base.<sup>306</sup> The Court answered “no,” because “income” under the

<sup>301</sup> See Chason, *supra* note 294, at 284 (“It may have been 13:20 GMT on August 1, 2017, when Bitcoin and Bitcoin Cash stopped having a common transaction history. Or it may have been almost five hours later, when miners first validated new blocks on the Bitcoin Cash blockchain.”).

<sup>302</sup> See Waerzeggers & Aw, *supra* note 106, at 236.

<sup>303</sup> 252 U.S. 189 (1920).

<sup>304</sup> I.R.C. §§ 305–306.

<sup>305</sup> U.S. CONST. amend. XVI (“The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration.”).

<sup>306</sup> *Macomber*, 252 U.S. at 199.

Sixteenth Amendment meant “the gain derived from capital, from labor, or from both combined.”<sup>307</sup> The Court held stock dividends did not change the corporation’s value or the shareholder’s entitlement to the corporation’s assets or profits, which meant there was no increase in the wealth of the shareholder. Thus, stock dividends were not “income” within the meaning of the Sixteenth Amendment. This analysis does not lead to the same result in a case of a hard fork. *Macomber* applies to a situation of proportionate distribution of new shares, in which each shareholder receives additional shares in proportion to the shares already held, and the aggregate share value remains exactly the same both immediately after and before the distribution. This is not necessarily the case in a hard fork. The Bitcoin hard fork, for example, resulted in the creation of a new cryptocurrency (Bitcoin Cash), which is different than Bitcoin, as it has its own unique characteristics, its own blockchain, and holds an independent value from Bitcoin.<sup>308</sup> In hard forks, unlike in a pure stock split, the creation of a new separate cryptocurrency with independent value may result in net gain or loss to the crypto holder at the time of the hard fork. Thus, hard forks are not necessarily a zero-sum game.<sup>309</sup>

Additionally, as all holders of Bitcoin received Bitcoin Cash in a one-to-one basis following the hard fork, not all Bitcoin holders were positioned similarly to shareholders after a pro rata stock split. This is because not all exchange platforms supported the new currency following the hard fork,<sup>310</sup> meaning some crypto holders did not have access to the new currency, while others did.<sup>311</sup> Therefore, the conclusion under the *Macomber* case does not realistically apply to hard forks. Moreover, cryptocurrencies are not stocks, and they consequently cannot be analyzed under sections 305 and 306 containing statutory rules legislated to specifically address stock distributions to shareholders. The legislative history of section 305(a) states that “as long as a shareholder’s interest remains in corporate solution, there is no appropriate occasion for the imposition of a tax.”<sup>312</sup> The new tokens issued following a hard fork do not reflect a claim on underlying corporate assets or earnings but instead have intrinsic value similar to other assets. The rationale of Section 305 therefore does not apply to hard forks.

b. *Treatment as Windfalls.* Arguably, new tokens received following a hard fork can be considered windfall income, since the crypto holders did

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<sup>307</sup> *Id.* at 207 (quoting *Stratton’s Independence, Ltd. v. Howbert*, 231 U.S. 399, 415 (1913)).

<sup>308</sup> See Semanski, *supra* note 77, at 12.

<sup>309</sup> See Waerzeggers & Aw, *supra* note 106, at 236.

<sup>310</sup> For example, while Bitcoin hard fork occurred on August 1, 2017, Coinbase recognized Bitcoin cash only as of December 19, 2017. See <https://help.coinbase.com/en/coinbase/getting-started/crypto-education/bitcoin-cash-faq> [<https://perma.cc/TK3Y-FL93>].

<sup>311</sup> See Semanski, *supra* note 77, at 12.

<sup>312</sup> See S. REP. NO. 1622, 83d Cong., 2d Sess. 44 (1954).

not need to do anything to receive them.<sup>313</sup> Windfalls and other kinds of free compensation are generally included in gross income, even if the recipient did not want to receive them.<sup>314</sup> However, going one step back, the question remains whether the new tokens are considered to be income at all under the *Glenshaw Glass* test, *i.e.*, are they considered to be “undeniable accessions to wealth, clearly realized, and over which the taxpayer has complete dominion”?<sup>315</sup>

First, it’s not clear whether there is an “undeniable accession to wealth” at the time of a hard fork. Despite the receipt of the new tokens, which obviously have value by themselves, the value of the old tokens could decrease at the time of the hard fork due to network effects resulting from the hard fork. For instance, if news of a hard fork gets people excited about cryptocurrency, the combined value of the coins (the original and the new) may increase. On the other hand, if a particular fork causes people to lose confidence in the cryptocurrency, the combined value may decrease. In this case, in aggregate, there might be a decrease in the taxpayer’s wealth due to the hard fork.<sup>316</sup>

Moreover, the new forked tokens, in general, do not have a readily ascertainable value because they are perceived merely as new experiments for which chances for failure or success are uncertain at the time of the hard fork.<sup>317</sup> The inability to ascertain the value of the new tokens at the time of the hard fork, along with the change of value of the original tokens, make it impossible to determine if there is an accession to the aggregate wealth of the crypto holders as a result of the hard fork.

Second, it is hard also to determine if the realization requirement is met. David G. Chamberlain, in his article “Forking Belief in Cryptocurrency: A Tax Non-Realization Event,”<sup>318</sup> explains that, in essence, the hard fork is a division of each coin of the original currency into two coins of the resulting currencies, similar to the manner in which a subdivision of real property divides a single parcel into separate lots. While each currency, like each parcel of real property, has its own characteristics, the division itself is not a realization event and is therefore not taxable. According to Chamberlain, in a hard fork, as in a real property subdivision, the asset owner does not give

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<sup>313</sup> Eric D. Chason, *A Tax on the Clones: The Strange Case of Bitcoin Cash*, 39 VA. TAX REV. 1 (2019).

<sup>314</sup> See *Haverly v. U.S.*, 513 F.2d 224 (7th Cir. 1975) (holding that free textbooks sent unsolicited by a publisher to a high school principal were taxable income).

<sup>315</sup> *Glenshaw Glass*, 348 U.S. at 431.

<sup>316</sup> David G. Chamberlain, *Forking Belief in Cryptocurrency: A Tax Non-Realization Event*, 24 FLA. TAX REV. 651, 654 (2022).

<sup>317</sup> See Sabu, *supra* note 199, at 18. For example, there was no readily ascertainable value for Bitcoin Cash until sometime after the hard fork, and even then, trading prices varied significantly among the different exchange platforms.

<sup>318</sup> Chamberlain, *supra* note 316, at 654.

up anything and does not receive anything from the recipient party. Therefore, the gain or loss is not realized, as there is no sale or disposition that can “unlock” any unrealized gain or loss in the forked cryptocurrency coins.<sup>319</sup> Moreover, the uncertainty surrounding the timing of the hard fork, along with the inability of taxpayers to determine the value of the new tokens upon the hard fork, complicates the matter and prevents, as a practical matter, the treatment of the hard fork itself as a realization event in which the holders of the new tokens have “realized” income.<sup>320</sup>

Third, there is a question whether the “dominion and control” requirement is met in the case of a hard fork, because the taxpayer does not always have access to the new cryptocurrency.<sup>321</sup> For multiple reasons, some recipients of Bitcoin Cash, for example, did not have, or could not procure, the digital key necessary to access the Bitcoin Cash to which they were eligible.<sup>322</sup> Therefore, it is uncertain whether each recipient has a complete “dominion and control” over the newly forked tokens.

To conclude, the receipt of the new tokens as part of the hard fork does not meet the three requirements under the *Glenshaw Glass* test. As a result, the hard fork should not result in income in the hands of the crypto holders.

c. *Treatment as a Software Upgrade.* The more accurate way to treat the hard fork is as a software upgrade which does not constitute a taxable event in the hands of the taxpayers.

Similar to other software, blockchains need to be updated for a variety of reasons. Some reasons are to enhance functionality of the technology, to address security risks, and to resolve a disagreement within the community about the cryptocurrency’s direction.<sup>323</sup> Thus, a hard fork is fundamentally a software upgrade of the blockchain’s operating system, similar to other software upgrades (e.g., updating the phone with the latest version). Those on the old chain will generally realize that their version of the blockchain is outdated or irrelevant, and upgrade to the latest version.<sup>324</sup> For example, an owner of the original Bitcoin would have to download new software to use

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<sup>319</sup> Chamberlain, *supra* note 316, at 654.

<sup>320</sup> See Sabu, *supra* note 199, at 18.

<sup>321</sup> 2020 OECD REPORT, *supra* note 35, at 44. (“Although the new tokens can be deemed to be received when they are entered on the blockchain, situations of difficulty can arise if an individual holds virtual currencies through an exchange that does not recognise the new virtual currency, rendering them unable to be received, used and sold. It is possible that an individual will be considered to have received property or income for tax purposes but be unable to dispose of the assets.”).

<sup>322</sup> See Semanski, *supra* note 77, at 11. For example, Coinbase at the beginning did not agree to support Bitcoin Cash.

<sup>323</sup> *What Is a Fork?*, COINBASE, last visited Sept. 17, 2023, <https://www.coinbase.com/learn/crypto-basics/what-is-a-fork> [<https://perma.cc/D7EY-6KAW>].

<sup>324</sup> Frankenfield, *supra* note 281.



Bitcoin Cash, similar to an owner of Microsoft Word who must download the updated software to enhance the functionality of the program.<sup>325</sup>

The software upgrade through a hard fork, in a technical manner, merely means that some users adopt new software that is inconsistent with past software. These upgrades do not result in realization of income at the time of the fork.<sup>326</sup> In order to achieve the purpose of the hard fork, it is not necessary to create new tokens. If all users in the community adopt the new standard and abandon the old standard, then there would be no need to create new tokens.<sup>327</sup> However, given the lack of community consensus, the software upgrade cannot be done without the issuance of new tokens which are created as a result of the updated software. Therefore, the new tokens are seen as part of the software upgrade which should not be considered as a taxable event by itself. The new tokens should be taxed only upon subsequent disposition or exchange. The new tokens should have a basis of zero, and the holding period should start as of the moment the new tokens are deposited into the user's wallet.<sup>328</sup>

The proposed tax-free treatment at the time of the hard fork can arguably support (or at least, not harm) the innovation and the development of different software associated with the crypto industry. For example, the Bitcoin hard fork significantly enhanced the functionality of the blockchain, by raising its blocks' size limit from one megabyte to eight megabytes. This allowed Bitcoin to increase the threshold quantity of transactions that can be performed through the network, and further, it enhanced the role of Bitcoin as a medium of exchange.<sup>329</sup>

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<sup>325</sup> See Sabu, *supra* note 199, at 23.

<sup>326</sup> See Sabu, *supra* note 199, at 19.

<sup>327</sup> See Chason, *supra* note 294, at 283.

<sup>328</sup> This approach finds support in authorities treating the birth of livestock as not constituting a taxable event. When a taxpayer owns a cow or broodmare and has her bred, the taxpayer does not have taxable income upon the birth of the calf or foal and has a zero basis in the calf or foal. I.R.S., Audit Tech. Guide, Farmers (2011). See also 2020 NYSBA REPORT, *supra* note 298 (“[T]he new coin or token can be obtained at inception of the hard fork only if the holder owns or acquires the original coin or token. The new coin or token is created out of the original coin or token. The birth of offspring from a taxpayer’s existing herd of cattle or broodmares is a fitting analogy. The taxpayer owns the “parent” coin, which can be said to give birth to the new “baby” coin.”).

<sup>329</sup> As a comparative view, the most common approach for taxing hard forks is on disposal rather than on receipt, such as the case in Austria, Finland and the United Kingdom. 2020 OECD REPORT, *supra* note 35, at 34–44. For example, according to the latest guidance published by the Ministry of Finance of Austria, “current income is not deemed to have been generated if: . . . cryptocurrencies are accrued as a result of an alteration from the original blockchain (‘hardfork’) . . . . In these cases, income from cryptocurrency holdings is not taxed at the time of inflow. However, the cryptocurrency holdings concerned are deemed to have been acquired at zero cost. This means that if they are disposed of at a later date, the full value of the cryptocurrency holdings will be taxed.” <https://www.bmf.gv.at/en/topics/taxation/Tax-treatment-of-crypto-assets.html> [<https://perma.cc/82UQ-8PPQ>].

It is also recommended that the Service enhance the reporting requirements for crypto exchanges, similar to our earlier recommendation in this regard, to report to the Service the number of tokens (with relevant identifying information) that become available to a taxpayer after a hard fork in order to facilitate reporting and audit at the time the tokens are subsequently disposed of or exchanged for goods, non-crypto assets, or services.

Moreover, and as mentioned above, it is possible that after a hard fork, the old tokens which follow the original chain diminish in value. The report of the New York State Bar Association Tax Section on the “Taxation of Cryptocurrency” published on January 26, 2020 (the “2020 NYSBA Report”), refers to this situation in case the Service adopts the “Zero Basis Asset Approach.”<sup>330</sup> In such a case, a taxpayer would have a zero basis in the new token, which then would have significant built-in gain, and a cost basis in its original token, which then would have a significant built-in loss. The taxpayer could seek to recognize the loss on the old token and defer income indefinitely on the new token. To deal with this undesirable situation, the 2020 NYSBA Report provides that in the case of a sale of the original token at a loss, the loss be denied and the amount of the disallowed loss increase the basis of the new token. We agree on this treatment as proposed in the 2020 NYSBA Report (but recognizing that legislation may be required to achieve this result).<sup>331</sup>

## 2. *Airdrops*

Unlike hard forks, it seems clear that tokens received as part of an airdrop give rise to income under the *Glenshaw Glass* test, as the recipients arguably have an accession to wealth that is clearly realized and over which they have complete dominion. Here, recipients of airdropped tokens receive tokens which have value; thus, there is an “accession to wealth” in which the realization event occurs when the new tokens are deposited into the digital wallets of the users. After the airdropped tokens are deposited into the participants accounts, they are freely transferable, in which case the users have “dominion and control” over such tokens.

Despite being seemingly straightforward, the application of the *Glenshaw Glass* test is complicated by the distributed ledger characteristics of blockchain

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<sup>330</sup> The 2020 NYSBA Report recommends the Service to adopt one of four plausible ways of analyzing the consequences of a hard fork: (1) as an accession to wealth, (2) as a non-realization event followed by basis splitting, (3) as a non-realization event giving rise to an asset with a basis of zero, and (4) as a taxable sale or exchange. See 2020 NYSBA REPORT, *supra* note 298.

<sup>331</sup> See 2020 NYSBA REPORT, *supra* note 298, at 17–19. The Report further provides that the Service “may wish to provide for a limited loss disallowance period (such as five years) to simplify recordkeeping burdens, though we note that limiting the loss disallowance period in this way could permit taxpayers to recognize what are essentially artificial losses after the end of whatever period is chosen.”

technology.<sup>332</sup> Airdropping could lead to a situation where any third party has the ability to create a tax obligation for any participant in the network by distributing units of a cryptocurrency to the addresses of the participants, as long as the third party has access to a taxpayer's public key.<sup>333</sup> This would create a taxable event each time there is an airdrop. This would impose massive compliance challenges on taxpayers, especially considering the fact that in most of the cases it is very difficult to value the airdropped tokens, as they are generally issued by new crypto businesses preceding an ICO.<sup>334</sup>

Therefore, from a tax policy perspective, similar to the proposed treatment of crypto-to-crypto transactions, it is preferable to not tax the receipt of the tokens, but rather only tax when the tokens are exchanged or disposed of later.<sup>335</sup>

## VII. Conclusion

The U.S. framework for taxing cryptocurrency is unadministrable and ignores the defining feature that distinguishes crypto from other assets: its volatility. A new framework is needed that recognizes crypto's unique features. Congress should act to provide that framework, overruling the Service's position in Notice 2014-21.

Because of that administrative difficulty and volatility, we propose that crypto be taxed only when it is exchanged for real-world fiat money or goods and services. In other words, all crypto should be treated as like-kind to other crypto for section 1031 purposes. That change would require legislative action because section 1031 was limited to real property by the TCJA.

When crypto is used to acquire fiat currency or goods and services, it should be taxed because, at that point, its value becomes fixed—that is, it is realized. The Service's view that cryptocurrency should always be taxed as an asset is wrong because it is unadministrable. Under the agency's view, every time a taxpayer uses crypto to buy a cup of coffee, she must calculate her basis in that particular token and pay tax on the gain. The Service is not capable of

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<sup>332</sup> Peter Van Valkenburgh, *IRS Cryptocurrency Guidance Answers Some Questions While Raising Messy New Ones*, COINCENTER (Oct. 9, 2019), <https://www.coincenter.org/irs-cryptocurrency-guidance-answers-some-questions-while-raising-messy-new-ones/> [https://perma.cc/ZPR9-WY5Z].

<sup>333</sup> Van Valkenburgh, *supra* note 332.

<sup>334</sup> The 2020 NYSBA Report recommends that the Service could require persons facilitating the distribution of coins or tokens in a giveaway, such as domestic exchanges or other service providers, to report the distribution of coins and tokens to the Service to create a record of the airdrop and help ensure that tax is reported either upon receipt or upon a subsequent sale or exchange of the tokens for cash, other property, or services. *See* 2020 NYSBA REPORT, *supra* note 298.

<sup>335</sup> As a comparative view, the Ministry of Finance of Austria set in its latest guidance that the cryptocurrency that is received as part of an "airdrop" is not taxable upon receipt, but rather upon disposal. *Tax Treatment of Cryptocurrencies*, Republic of Austria Federal Ministry of Finance, last accessed Sept. 17, 2023, <https://www.bmf.gv.at/en/topics/taxation/Tax-treatment-of-crypto-assets.html> [https://perma.cc/S2H2-T45G].

auditing that many transactions. Instead, we suggest a bright line: If crypto is held for less than a year—that is, if it is not a long-term capital asset—it should be treated as foreign currency. That would mean that the gain on transactions of \$200 or less is exempt and that basis is determined on a reasonable method basis (for example, averaging) rather than item by item. If crypto is held for more than a year, it is an investment and should be taxed as such—that is, as an asset subject to Notice 2014-21. This treatment preserves neutrality between crypto and fiat foreign currencies when crypto is used as a currency.

Lastly, we argue that hard forks should be treated as a software upgrade which does not constitute a taxable event in the hands of the taxpayers. Also, the tokens received as part of “airdrops” should not be taxed when they received, but only when they are exchanged or disposed of later.

