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A Beginner's Guide to Cryptocurrencies: Explaining the Technologies Behind Cryptocurrencies, How the United States Taxes and Regulates Them, and Offering Changes to the Existing Taxation and Regulation Schemes

J. Merritt Francis

University of Richmond School of Law

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**A BEGINNER’S GUIDE TO CRYPTOCURRENCIES: EXPLAINING
THE TECHNOLOGIES BEHIND CRYPTOCURRENCIES, HOW THE
UNITED STATES TAXES AND REGULATES THEM, AND
OFFERING CHANGES TO THE EXISTING TAXATION AND
REGULATION SCHEMES**

J. Merritt Francis*

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* LL.M. in Taxation Candidate, 2024, New York University School of Law; J.D., 2023, University of Richmond School of Law; B.S., 2018, University of South Carolina. I would like to thank Professor Christopher A. Cotropia, whose guidance and assistance yielded the analyses’ depth and clarity throughout the challenging topics addressed. I would also like to thank Payton A. Miles, Paige R. Skinner, Joseph R. Patrell, and the rest of the Richmond Journal of Law & Technology for their steadfast efforts in bringing this article to publication.

ABSTRACT

The United States federal government has attempted to use its existing regulatory and taxation schemes to regulate and tax cryptocurrencies, while many individuals are still unsure as to what cryptocurrency really is. The Securities and Exchange Commission and the Commodities Future Trading Commission have both asserted their jurisdiction over cryptocurrency, resulting in unclear guidance for developers in the cryptocurrency space and a failure to adequately protect investors. Further, the Internal Revenue Service taxes cryptocurrency like a security rather than a currency, which disincentivizes adopting cryptocurrency as a form of payment. Nevertheless, although cryptocurrencies are taxed like securities, there are tax breaks for securities and commodities activities that are not currently available for cryptocurrency activities. Under the United States' current approach, investors will remain vulnerable to fraud, and businesses and individuals using cryptocurrencies for goods and services will be subject to an extra level of taxation.

This paper's initial purpose is to provide readers with sufficient background knowledge on the architecture underlying a blockchain network. The paper then endorses creating a joint self-regulatory organization and providing the organization with original jurisdiction over all cryptocurrency activities to provide uniform registration and reporting requirements. Further, the paper offers suggestions on how the United States can change its approach to taxing cryptocurrencies, so they are treated more like currencies when used for goods or services, and treated more like securities when the taxpayer is an active trader or participant node on the blockchain network.

I. INTRODUCTION

[1] Whether you saw a crypto.com commercial with Matt Damon or heard about the FTX bankruptcy, you have likely heard about cryptocurrency. Even though most people have heard about cryptocurrency, there seems to be a general lack of understanding about what cryptocurrency really is. This lack of understanding cryptocurrency is common in all stages of life, from middle schoolers to senior citizens, and is common amongst all walks of life, from teachers to attorneys and congresspeople. Some members of Congress do not understand the first thing about cryptocurrency, while others actively trade cryptocurrency.¹

[2] The technology underlying cryptocurrency, blockchain technology, is complicated on its own. People are reluctant to allocate their time and energy to learn about digital currencies when they have paper dollars in their pockets and bank accounts that work just fine. Beyond the complex technology underlying crypto, some people fail to understand its macroeconomics and potential efficacy on a global scale.² Nonetheless, with so much institutional money in the cryptocurrency market and the potential applications of cryptocurrency, it is not going anywhere anytime soon.

¹ See generally Stacy Elliot, *Members of Congress Who Have Traded Crypto Since 2020*, DECRYPT (June 11, 2022), <https://decrypt.co/102614/members-of-congress-traded-bitcoin-ethereum-coinbase-even-dogecoin-since-2020> [<https://perma.cc/VCG8-MSYN>] (discussing a partisan split for cryptocurrency).

² See *How Can Cryptocurrency Reshape the Global Economy?*, INT'L FIN. (Mar. 21, 2022), <https://internationalfinance.com/how-cryptocurrency-reshape-global-economy/> [<https://perma.cc/2XV3-YMRX>].

[3] The cryptocurrency market cap went from \$0 in 2011 to about \$3 trillion in November 2021.³ The crypto market cap then lost over \$2 trillion in the last year due to scandals and hacks, among other things, and the crypto market cap currently sits at about \$1.26 trillion at the time of this writing.⁴ United States federal agencies and officials have responded slowly in regulating the new technology since the market's inception, taking a "regulation through litigation," ad hoc approach.⁵ Some investors have made more money than they could have imagined from crypto, while others have taken unfathomable losses. Either way, the United States government has been there to prosecute wrongdoers and tax the fortunes earned along the way.⁶ The United States' ad hoc approach has been effective in prosecuting fraudsters, but it has failed in providing clear guidance to developers in the space and protecting investors before their injuries occur. Most people purchasing cryptocurrencies have hopes of earning profit, but it is unclear whether they are purchasing a commodity, a security, or something entirely different. With the recent FTX bankruptcy, investors and policymakers are calling for clear regulation in the crypto industry more loudly than ever before.⁷

³ *Overall cryptocurrency market capitalization per week from July 2010 to September 2023*, STATISTA, <https://www.statista.com/statistics/730876/cryptocurrency-market-value/> [https://perma.cc/9NA7-NZJF].

⁴ *Id.*

⁵ *See SEC Crypto Enforcement Actions on Track to Outpace 2022*, PYMNTS (May 5, 2023), <https://www.pymnts.com/cryptocurrency/2023/sec-crypto-enforcement-actions-could-outpace-2022/> [https://perma.cc/5GJB-EUTB].

⁶ *See id.*

⁷ Erin Griffith, *Why the Crypto Collapse Matters*, N.Y. TIMES (Nov. 17, 2022), <https://www.nytimes.com/2022/11/17/briefing/crypto-collapse-ftx.html> [https://perma.cc/ET4E-3ZM2]; *see also* Erin E. Broderick et al., *FTX Files for Chapter 11 Bankruptcy*, EVERSHEDES SUTHERLAND (Nov. 30, 2022), <https://us.eversheds-sutherland.com/mobile/NewsCommentary/Legal-Alerts/254934/FTX-files-for-Chapter-11-bankruptcy> [https://perma.cc/BLC5-UU77].

[4] This paper attempts to serve three purposes: (1) to explain cryptocurrency and its underlying technologies to the common person; (2) to illustrate the United States' current regulatory and taxation schemes; and (3) to offer a regulatory and taxation framework that provides a consumer-safe environment and promotes the new technology's growth in the United States. Section II explains cryptocurrency, blockchain technology, and cryptocurrency exchanges and wallets. Section III examines the United States federal government's approach to regulating cryptocurrency. Section IV details the United States federal government's approach to taxing cryptocurrencies. Section V offers regulatory and taxation schemes the United States could adopt for cryptocurrencies. Section VI concludes the paper and gives highlights of the main issues discussed.

II. CRYPTO & BLOCKCHAIN EXPLAINED

[5] Cryptocurrency refers to a digital asset that uses distributed ledger technology, also known as blockchain technology, to enable and process transactions.⁸ The term "cryptocurrency" is used because this digital currency uses cryptographic protocols to secure transactions.⁹ This section explains why cryptocurrency was invented in the first place, details the technologies and architectures underlying cryptocurrencies, and provides stories and examples of success and loss in the cryptocurrency market. Although there were cryptocurrencies created as early as the 1990s,¹⁰

⁸ See *Digital Assets, Distributed Ledger Technology and the Future of Capital Markets*, WORLD ECON. F. (May 6, 2021), https://www3.weforum.org/docs/WEF_Digital_Assets_Distributed_Ledger_Technology_2021.pdf [<https://perma.cc/D3BZ-B45R>] [hereinafter *Digital Assets*].

⁹ See *id.*

¹⁰ See Nathan Reiff, *What Was the First Cryptocurrency?*, INVESTOPEDIA, <https://www.investopedia.com/tech/were-there-cryptocurrencies-bitcoin/> [<https://perma.cc/FV6Y-JZLM>] (last updated July 23, 2022).

Bitcoin's origin story illustrates why this industry came to fruition and helps explain how cryptocurrencies function.

A. Bitcoin Origin Story

[6] In 2008, Satoshi Nakamoto published a paper titled, "Bitcoin: A Peer-to-Peer Electronic Cash System."¹¹ Satoshi begins the paper by noting how internet commerce relies "almost exclusively on financial institutions serving as trusted third parties to process electronic payments[,] and points out several flaws with this trust-based, third party model.¹² First, transactions processed by a trusted third-party are reversible. For example, if a bank's customer disputes a charge posted to their bank account, the bank might cancel the transaction. When a disagreement over a transaction arises between two parties, the trusted third parties (credit card companies, banks, Paypal, etc.) are forced to mediate the dispute.¹³ It costs money to mediate these disputes, thereby increasing transaction costs and leading to the second problem: very small transactions (*e.g.*, paying ten cents to read an article or watch a short video) are impractical because the transaction costs involved are too high.¹⁴ Lastly, credit card companies can cancel transactions even though some services are nonreversible (*e.g.*, renting and watching a movie online), and no third-party should be able to reverse these transactions. "With the possibility of reversal, the need for trust spreads[,] "

¹¹ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN, 1 (Oct. 31, 2008), <https://bitcoin.org/bitcoin.pdf> [<https://perma.cc/6DYN-7CHM>].

¹² *Id.*

¹³ Raphael Meyer, *The Bitcoin whitepaper, explained and commented – section 1, introduction*, MEDIUM (Mar. 22, 2020), <https://meyer-raph.medium.com/the-bitcoin-whitepaper-explained-and-commented-section-1-introduction-55f23e96a110> [<https://perma.cc/V6NG-K5FD>].

¹⁴ Nakamoto, *supra* note 11.

and merchants are forced to hassle customers for personal information when they only need payment for the goods and services.¹⁵

[7] To resolve these issues, Satoshi proposed an electronic payment system where any two parties can transact directly with each other without the need for a trusted third party.¹⁶ In theory, without the need for a trusted third party to validate and process transactions, transaction costs would be low, no third parties could reverse transactions, and merchants could only require payment rather than personal information from their customers.¹⁷ Put differently, Bitcoin was designed to be a cash-like payment system that permits electronic transactions but also includes the advantages of physical currencies.¹⁸ There are three main concepts to understand how Bitcoin and other cryptocurrencies work: blockchain technology, nodes on a peer-to-peer network, and consensus algorithms.

B. Blockchain Technology Explained

[8] Blockchain technology refers to a distributed, decentralized database that keeps records of transactions.¹⁹ Blockchains are distributed because transactions are viewable by the public; you can go online and view all transactions on the Bitcoin blockchain.²⁰ Blockchains are decentralized because there is no central authority, such as a bank, to validate and verify

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ Meyer, *supra* note 13.

¹⁸ See Nakamoto, *supra* note 11.

¹⁹ See *Digital Assets*, *supra* note 8.

²⁰ See, e.g., *Blockchain Explorer – Bitcoin Tracker & More*, BLOCKCHAIN.COM, <https://www.blockchain.com/explorer> [<https://perma.cc/7R73-AFXF>] (last visited Oct. 1, 2023).

transactions.²¹ Transactions are validated and processed by a peer-to-peer network of computers called nodes.²² It may be helpful to think of blockchains like a bank ledger, but instead of an individual working at a bank processing and recording transactions, computers around the world do all the work. Blockchains are more than a way to process and validate transactions; blockchains are also a registry and inventory for all assets on the blockchain.²³

[9] The second element essential to understanding cryptocurrency and blockchain technology is the concept of nodes working together on a peer-to-peer network. In this context, nodes are computers located around the world owned by businesses and individuals that are running the respective blockchain's software.²⁴ The nodes operating on the peer-to-peer network give blockchains their decentralized feature because there is no single computer storing and recording transactions—unlike a bank.²⁵ The nodes all work together to confirm the history of all transactions on the blockchain and prevent the “double-spending” problem.²⁶ The double-spending problem is when an individual attempts to make a transaction and they lack sufficient funds, similar to an individual using a check to purchase goods when they do not have the money in their account to cover the check's promised amount.²⁷ The nodes effectively communicate together to say,

²¹ See *Digital Assets*, *supra* note 8.

²² *Id.* at 17.

²³ See Deen Newman, *Blockchain Node Providers and How They Work*, INFOQ (Mar. 3, 2021), <https://www.infoq.com/articles/blockchain-as-a-service-get-block/> [<https://perma.cc/LE9H-MLPH>].

²⁴ *Id.*

²⁵ See *id.*

²⁶ Nakamoto, *supra* note 11, at 8.

²⁷ Meyer, *supra* note 13.

“yes, this wallet contains five Bitcoins, and this user has four Bitcoins to send.”

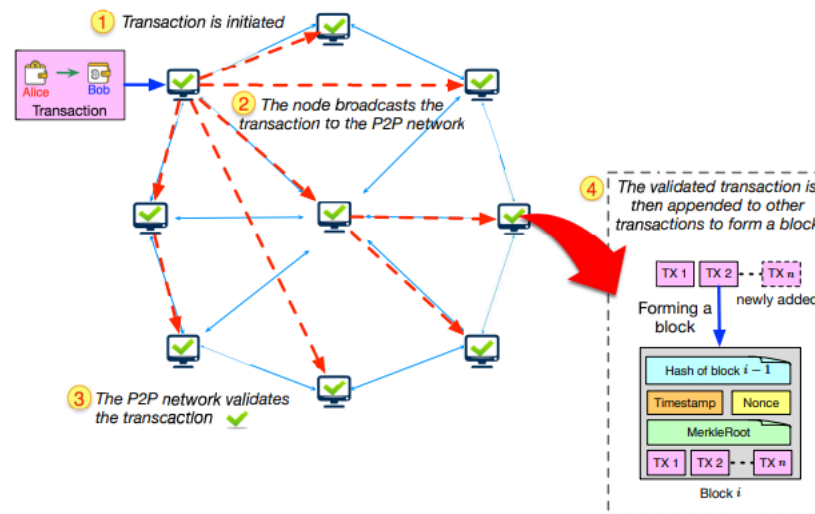
[10] To send a transaction on the Bitcoin blockchain, an individual must log into their wallet with a password, input the Bitcoin amount and recipient, then input another password to confirm the transaction.²⁸ When the Bitcoin network processes the transaction, the transaction data is bundled together with the data of 2,000 other transactions, on average.²⁹ When a Bitcoin block reaches its data storage capacity (approximately 2,000 transactions), the block of data is added onto the chain, thereby creating the blockchain.³⁰ The nodes receive an updated list of all transactions on the blockchain, which preserves the history of all transactions on the blockchain.³¹ The following picture demonstrates how transactions are processed, validated, and recorded by nodes on a blockchain’s peer-to-peer network:

²⁸ Adekola Olawale, *Bitcoin Security: Insights into how to secure BTC tokens in storage*, MEDIUM (Mar. 16, 2023), https://medium.com/@Adekola_Olawale/bitcoin-security-f92ed0ccaa64 [<https://perma.cc/HMF6-6X6Q>].

²⁹ See *Bitcoin Average Transactions Per Block (I:BATPB)*, YCHARTS, https://ycharts.com/indicators/bitcoin_average_transactions_per_block [<https://perma.cc/X237-6MQG>] (last visited Oct. 1, 2023).

³⁰ See generally Xenia Soares, *How Blocks Are Added to a Blockchain, Explained Simply*, COINDESK, <https://www.coindesk.com/learn/how-blocks-are-added-to-a-blockchain-explained-simply/> [<https://perma.cc/HCG7-A2XM>] (last updated May 11, 2023, 12:52 PM) (explaining how blocks of information are linked on a virtual chain).

³¹ See *id.*



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[11] For a node to approve a transaction, the node must satisfy the blockchain's respective consensus algorithm.³³

C. How Nodes Approve Transactions: Consensus Algorithms

[12] A consensus algorithm is a core part of any blockchain network.³⁴ It is the procedure through which all of the participant nodes on a blockchain network reach a common agreement about the present state of the

³² Hong-Ning Dai et al., *Blockchain for Internet of Things: A Survey*, RESEARCHGATE (June 2019), https://www.researchgate.net/publication/333600905_Blockchain_for_Internet_of_Things_A_Survey [<https://perma.cc/3XMH-RWVQ>].

³³ Chizurum Ibeawuchi, *What is a consensus algorithm?*, EDUCATIVE, <https://www.educative.io/answers/what-is-a-consensus-algorithm> [<https://perma.cc/XN6C-5FUE>] (last visited Oct. 6, 2023).

³⁴ *Id.*

distributed ledger.³⁵ Consensus algorithms force the nodes to work together to achieve reliability in a blockchain, thereby eliminating the double-spending problem.³⁶ When a node satisfies a blockchain's consensus algorithm, the blockchain transaction is processed and added to the blockchain's history, and the node is rewarded with cryptocurrency.³⁷ There are two types of consensus algorithms this paper will cover: Proof of Work and Proof of Stake.

1. Proof of Work Consensus Algorithms

[13] On blockchains using Proof of Work (PoW) consensus algorithms, the participant nodes on the peer-to-peer network, referred to as crypto miners, download the blockchain's entire transaction history.³⁸ When a transaction is sent on the blockchain, the nodes run the full blockchain transaction history through a complex mathematical function called a "hash" puzzle.³⁹ When a node solves a hash puzzle, the transaction is added to the blockchain, and the node is rewarded by being selected to mine a block, which is the privilege of adding a valid block onto the blockchain.⁴⁰

³⁵ *See id.*

³⁶ *See id.*

³⁷ *See Consensus Algorithms: Securing Blockchain Transactions*, MEDIUM (Sept. 21, 2018), <https://medium.com/coinbundle/consensus-algorithms-dfa4f355259d> [<https://perma.cc/ZUQ6-G9QE>].

³⁸ *See Ibeawuchi, supra* note 33; *see* E. Napoletano, *Proof of Work Explained*, FORBES, <https://www.forbes.com/advisor/investing/cryptocurrency/proof-of-work> [<https://perma.cc/5DQN-C63J>] (last updated Aug. 25, 2023, 1:26 PM); *What is a Bitcoin Node? A beginner's guide on blockchain nodes*, COINTELEGRAPH, <https://cointelegraph.com/learn/what-is-a-bitcoin-node-a-beginners-guide-on-blockchain-nodes> [<https://perma.cc/P7ZR-FVBE>] (last visited Nov. 28, 2023).

³⁹ *See Ibeawuchi, supra* note 33; *see* Napoletano, *supra* note 38.

⁴⁰ Napoletano, *supra* note 38.

[14] The Bitcoin blockchain is an example of a blockchain employing a PoW consensus algorithm with hash puzzles. When an individual sends Bitcoin to someone, nodes around the world race to solve the hash puzzle, the answer to which is called a hash.⁴² For example, the hash for Bitcoin block #660000 is 00000000000000000008eddcdf078f12c69a439dde30dbb5aac3d9d94e9c18f6.⁴³ When the crypto miner's node solved the hash for Bitcoin block #660000, the Bitcoin transactions were added to the ledger and the node received 6.25 Bitcoin,⁴⁴ which was worth approximately \$117,370 at the time.⁴⁵ The crypto miner of Bitcoin block #660000 could sell or hold the Bitcoin it earned after running their node on the Bitcoin network, thereby helping the network operate.⁴⁶ The most successful cryptocurrency miners on a PoW blockchain solve hash puzzles more quickly than other miners, which requires an immense amount of computing power.⁴⁷

⁴⁷ See Leigh Cuen, *The debate about cryptocurrency and energy consumption*, TECHCRUNCH (Mar. 21, 2021, 11:30 AM), <https://techcrunch.com/2021/03/21/the-debate-about-cryptocurrency-and-energy-consumption/> [<https://perma.cc/GU7P-NN54>].

[15] One of blockchain's most redeeming qualities is that it is immutable; once a transaction processes on a blockchain, it's practically irreversible, just as Satoshi intended.⁴⁸ The nodes work together to maintain an updated record of all the transactions on the blockchain, thereby maintaining consensus and integrity in the network's transaction history.⁴⁹ PoW consensus algorithms make it almost impossible to alter any aspect of the blockchain because it requires an impracticable amount of computing power to rewrite the blockchain's history.⁵⁰ To illustrate: consider a bad actor who seeks to infiltrate the Bitcoin blockchain and rewrite the blockchain's transaction history to give themselves all the Bitcoin. The hacker would need a computer powerful enough to overpower at least half the nodes on the Bitcoin network.⁵¹ If the hacker could overpower at least half the nodes on the Bitcoin network, then the hacker could rewrite the Bitcoin transaction history to make themselves own all the Bitcoin, a majority of nodes on the network (all in control of the hacker) would come into consensus with each other, and the minority of other nodes (not in control of the hacker) would follow suit. Overpowering half the nodes on the Bitcoin network, however, would require approximately 317 million to 1.9 billion

⁴⁸ Mayank Sahu, *What Makes a Blockchain Network Immutable? Immutability Explained*, UPGRAD, <https://www.upgrad.com/blog/what-makes-a-blockchain-network-immutable/> [https://perma.cc/BP74-4ZX6] (last updated Nov. 22, 2022); Nakamoto, *supra* note 11.

⁴⁹ Ayushi Abrol, *What Are Blockchain Nodes? Detailed Guide*, BLOCKCHAIN COUNCIL (Sept. 27, 2023), <https://www.blockchain-council.org/blockchain/blockchain-nodes/> [https://perma.cc/2VEV-UKZJ].

⁵⁰ Joey Prebys, *Can bitcoin be hacked?*, OLLIV (June 22, 2021), <https://www.olliv.com/en-US/intro-to-crypto/safety-security/can-bitcoin-be-hacked> [https://perma.cc/4H5V-MHW6].

⁵¹ *Id.*

qubits of computing power,⁵² while IBM's record-breaking quantum computer has only 127 qubits of computing power.⁵³ Thus, the hacker's computer would have to be (at least) approximately 2.5 million times more powerful than the current world's best computer. Bitcoin's immutability is one of the reasons it has a market cap of over half a trillion dollars: investors trust the math behind the cash-like payment system where computers keep perfect record of transactions rather than trusting third parties.⁵⁴

[16] Although blockchains employing PoW consensus algorithms are extremely effective at preserving and securing blockchains, PoW blockchains require nodes around the world to exert immense amounts of computing power, which comes at a cost to the environment.⁵⁵ Ethereum, another highly touted and popular cryptocurrency blockchain, initially employed a PoW consensus algorithm.⁵⁶ The nodes operating on Ethereum's blockchain consumed around 73.2 terawatt hour (TWh) annually, which is the energy equivalent of a medium-sized country like Austria.⁵⁷ Tesla, at one point, accepted Bitcoin to purchase its vehicles, but

⁵² Matthew Sparkes, *Quantum computers are a million times too small to hack bitcoin*, NEW SCIENTIST (Jan. 25, 2022), <https://www.newscientist.com/article/2305646-quantum-computers-are-a-million-times-too-small-to-hack-bitcoin/> [<https://perma.cc/ADR5-T44F>].

⁵³ *Id.*

⁵⁴ See *Bitcoin Market Cap (I:BMC)*, YCHARTS, https://ycharts.com/indicators/bitcoin_market_cap [<https://perma.cc/297Y-UV3M>] (last visited Oct. 29, 2023).

⁵⁵ See Amy Castor, *Why Ethereum is switching to proof of stake and how it will work*, MIT TECH. REV. (Mar. 4, 2022), <https://www.technologyreview.com/2022/03/04/1046636/ethereum-blockchain-proof-of-stake/> [<https://perma.cc/NM68-5E7C>].

⁵⁶ *Id.*

⁵⁷ Alice Feng, *Is Cryptomining Harming the Environment?*, PSCI (Feb. 27, 2021), <https://psci.princeton.edu/tips/2021/2/27/is-cryptomining-harming-the-environment> [<https://perma.cc/ZY8W-57GS>].

suspended vehicle purchases using Bitcoin due to climate change concerns.⁵⁸ Elon Musk elaborated on the decision in a tweet, saying, “[c]ryptocurrency is a good idea on many levels and we believe it has a promising future, but this cannot come at great cost to the environment.”⁵⁹ In response to the PoW blockchains’ negative externalities, the Proof of Stake (PoS) consensus algorithm was created as an environmentally friendly alternative.⁶⁰

2. Proof of Stake Consensus Algorithms

[17] As discussed above, PoW consensus algorithms require nodes around the world to race each other to solve a complex mathematical function (the hash puzzle)—the winner of the race being rewarded with mining a block.⁶¹ Consequently, PoW consensus algorithms allocate block mining proportionally to the relative computing power a node has (i.e., the nodes that can prove their work the most).⁶² PoS consensus algorithms, on the other hand, use game theory and randomization to choose which node

⁵⁸ Lora Kolodny, *Elon Musk says Tesla will stop accepting bitcoin for car purchases, citing environmental concerns*, CNBC, <https://www.cnbc.com/2021/05/12/elon-musk-says-tesla-will-stop-accepting-bitcoin-for-car-purchases.html> [<https://perma.cc/QZ8J-DXNK>] (last updated May 12, 2021, 8:26 PM).

⁵⁹ *Id.*

⁶⁰ Jake Frankenfield, *What Does Proof-of-Stake (PoS) Mean in Crypto?*, INVESTOPEDIA, <https://www.investopedia.com/terms/p/proof-stake-pos.asp> [<https://perma.cc/PTY9-8MZ6>] (last updated May 31, 2023).

⁶¹ Napoletano, *supra* note 38.

⁶² Sivleen Kaur et al., *A Research Survey on Applications of Consensus Protocols in Blockchain*, 2021 HINDAWI: SEC. & COMM’N NETWORKS 1, 5 (Jan. 22, 2021), <https://doi.org/10.1155/2021/6693731> [<https://perma.cc/PQG3-NXQN>].

gets to validate the new block.⁶³ Blockchains employing a PoS consensus algorithm include Cardano (ADA), Tezos (XTZ), Binance Coin (BNB), Avalanche (AVAX), and Algorand (ALGO).⁶⁴ PoS blockchains consume substantially less energy than PoW blockchains because selecting nodes to validate transactions is a significantly less energy-intensive process than nodes around the world racing to solve a hash puzzle.⁶⁵ The Cardano blockchain, for example, is 47,000 times more energy-efficient than Bitcoin.⁶⁶

[18] Under a PoS consensus algorithm, crypto holders can “stake” their coins with nodes operating on the blockchain, and those nodes have a chance to validate new blocks on the blockchain.⁶⁷ When the node validates a new block on the blockchain, the node and the individuals staking their crypto with the node earn “staking rewards.”⁶⁸ PoS blockchains have their own distinct ways of operating and titling things, but there are three common activities and functions necessary to understand PoS blockchains: staking, the nodes on a PoS network, and staking rewards. This paper will

⁶³ See *Proof-of-stake vs. proof-of-work: Pros, cons, and differences explained*, COINTELEGRAPH, <https://cointelegraph.com/learn/proof-of-stake-vs-proof-of-work:-differences-explained> [<https://perma.cc/S49Z-RMFB>] (last visited Oct. 6, 2023) [hereinafter *Proof-of-stake vs. proof-of-work*].

⁶⁴ See CryptoPolitan, *How to Benefit from the Meteoric Rise of Proof of Stake Coins*, CRYPTORANK (Sept. 14, 2023), <https://cryptorank.io/news/feed/14455-proof-of-stake-coins> [<https://perma.cc/JZ96-AUJX>].

⁶⁵ See *Proof-of-stake vs. proof-of-work*, *supra* note 63.

⁶⁶ Jordan Major, *Cardano is 47,000x more energy-efficient than Bitcoin, data shows*, FINBOLD (Feb. 22, 2022), <https://finbold.com/cardano-is-47000x-more-energy-efficient-than-bitcoin-data-shows/> [<https://perma.cc/GP7A-FKNE>].

⁶⁷ Napoletano, *supra* note 38.

⁶⁸ Lyle Daly, *What is Staking in Crypto?*, THE MOTLEY FOOL, <https://www.fool.com/terms/s/staking/> [<https://perma.cc/79V8-U2K2>] (last updated Apr. 21, 2023, 9:55 AM).

use the Cardano blockchain and its native cryptocurrency, ADA, as an example.

[19] Consider an individual possessing 1,000 ADA in their wallet. The individual could let the ADA sit in their wallet, or they could stake their ADA with a node on the Cardano network to earn staking rewards (nodes on the Cardano network are referred to as “stake pool operators”).⁶⁹ Staking ADA is a passive investment that yields staking rewards, which are similar to the interest payments on savings accounts in the traditional world of finance.⁷⁰ As of this writing, staking ADA yields an estimated 3.3% annual return on the principal ADA invested.⁷¹ Cardano offers self-custodian staking, which allows users to stake their ADA with a stake pool operator without the crypto even leaving their wallet.⁷² To stake their 1,000 ADA with self-custodian staking, the individual would log into their wallet, select the stake pool operator they want to stake their ADA with, and hit “stake.” Cardano’s PoS consensus algorithm, titled Ouroboros, yields staking rewards every five days.⁷³ Individuals are permitted to either “claim” their

⁶⁹ See *Stake Pool Operation*, CARDANO, <https://cardano.org/stake-pool-operation/> [<https://perma.cc/L3ZD-L868>] (last visited Oct. 6, 2023).

⁷⁰ *Staking rewards – what are they?*, BITPANDA, <https://www.bitpanda.com/academy/en/lessons/staking-rewards-what-are-they/> [<https://perma.cc/NDF6-C6K7>] (last visited Oct. 6, 2023).

⁷¹ *Cardano ADA Staking Validators & Calculator*, STAKING REWARDS, https://www.stakingrewards.com/asset/cardano?category=pos&sort=staked_tokens&timeframe=30d&order=desc&verifiedFirst=true [<https://perma.cc/9BBK-K57Q>] (last visited Oct. 6, 2023) [hereinafter *Stake ADA*].

⁷² Albert Kim, *Cardano 101: Self-custodial Staking and Why it is Important*, EMURGO (Feb. 9, 2023), <https://emurgo.io/cardano-101-self-custodial-staking/> [<https://perma.cc/8LNW-3Z7Y>].

⁷³ See Tommy Kammerer, *(Re)introduction to Cardano*, CARDANO DEV. PORTAL, <https://developers.cardano.org/docs/operate-a-stake-pool/introduction-to-cardano/> [<https://perma.cc/WVZ2-4ZZA>] (last updated May 15, 2023) [hereinafter Kammerer, *(Re)introduction to Cardano*].

staking rewards from the stake pool operators or leave them unclaimed, and unclaimed staking rewards are added to the principal ADA amount staked.⁷⁴ So here, the individual could stake their 1,000 ADA with a stake pool operator on January 1 and log into their wallet on December 31 to see 1,033 ADA.

[20] The nodes on the Cardano network are called stake pool operators because they pool other peoples' staked ADA together to help run the blockchain.⁷⁵ Operating a stake pool on the Cardano network does not require the expensive hardware required to mine Bitcoin, but stake pool operators must administer, maintain, and secure their own server.⁷⁶ While Ouroboros utilizes game theory and randomization to choose which nodes validate new blocks,⁷⁷ on average, stake pool operators are selected to validate new blocks in proportion to the node's current holdings (i.e., the amount the node proves it has at stake).⁷⁸ For example, if a Cardano stake pool operator holds 1% of all ADA, the stake pool operator will be selected to validate, on average, 1% of all new blocks on the Cardano blockchain.⁷⁹ The stake pool operator gets their cut of the staking rewards, which is

⁷⁴ See *Stake ADA*, *supra* note 71.

⁷⁵ Kammerer, *(Re)introduction to Cardano*, *supra* note 73.

⁷⁶ See Tommy Kammerer, *Operate a Stake Pool*, CARDANO DEV. PORTAL, <https://developers.cardano.org/docs/operate-a-stake-pool/> [<https://perma.cc/2JC8-2W6P>] (last updated May 15, 2023) [hereinafter Kammerer, *Operate a Stake Pool*].

⁷⁷ Aggelos Kiayias et al., *Ouroboros: A Provably Secure Proof-of-Stake Blockchain Protocol*, CRYPTOLOGY EPRINT ARCHIVE at 3 (July 20, 2019), <https://eprint.iacr.org/2016/889.pdf> [<https://perma.cc/3X9N-ZGPY>] (describing the use of coin-flipping as protocol for randomization); see *Stake ADA*, *supra* note 71 (stating that Ouroboros uses a game-theoretic approach).

⁷⁸ *Id.* at 1–2.

⁷⁹ See *id.* at 1.

around 4.3% annual return on the ADA staked,⁸⁰ and the rest of the rewards go to the individuals who staked their ADA with the node (around 3.3% annual return).⁸¹

[21] In short, PoS blockchains consume substantially less energy than PoW blockchains because the PoS block validation process consumes less energy.⁸² The individuals operating nodes on a PoW blockchain are called “crypto miners,” and they compete amongst each other to solve hash puzzles and earn crypto mining rewards.⁸³ Nodes on a PoS blockchain are called “stake pool operators” and are selected to validate new blocks in a randomized order.⁸⁴ On average, however, PoS consensus algorithms select nodes to validate new blocks in proportion to the amount of cryptocurrency the nodes have staked.⁸⁵

[22] The PoW consensus algorithm was created first, and the United States federal government has had more time to issue guidance and rulings on activities in PoW blockchains. As discussed in Sections III, IV and V, PoS blockchains and the activities surrounding staking are becoming a point of emphasis for the United States federal government.

⁸⁰ *Stake ADA*, *supra* note 71.

⁸¹ *Id.*

⁸² Johannes Sedlmeir et al., *The Energy Consumption of Blockchain Technology: Beyond Myth*, 62 BUS. & INFO. SYS. ENG'G 599, 604 (2020), <https://link.springer.com/article/10.1007/s12599-020-00656-x> [<https://perma.cc/65UH-R5XW>].

⁸³ *Miner Meaning*, LEDGER (Aug. 15, 2023), <https://www.ledger.com/academy/glossary/miner> [<https://perma.cc/W43A-NWZ5>].

⁸⁴ Kiayias et al., *supra* note 77 at 1; Kammerer, *(Re)introduction to Cardano*, *supra* note 73.

⁸⁵ Kiayias et al., *supra* note 77 at 1–2.

[23] This paper's purpose is, in part, to explain cryptocurrency to the common person. With a better understanding of the technologies underlying cryptocurrency, it is equally helpful to explain how people purchase and hold cryptocurrencies.

D. How Investors Purchase and Hold Cryptocurrency

[24] As a practical matter, regardless of what type of cryptocurrencies investors purchase, there are established methods of purchasing and holding cryptocurrencies. First, people mostly purchase cryptocurrencies on centralized exchanges such as Binance, Coinbase, and KuCoin.⁸⁶ Many crypto investors leave their crypto holdings on centralized exchanges, but this will change in the future as more people are increasingly using crypto wallets.⁸⁷

1. Storing Cryptocurrency on a Centralized Exchange

[25] Leaving crypto on a centralized exchange allows investors to sell and purchase crypto assets quickly, and investors can exchange crypto assets for cash or another crypto asset, all on the exchange.⁸⁸ Further, investors can watch the value of their entire crypto portfolio, which may

⁸⁶ See Nathan Reiff, *What Are Centralized Cryptocurrency Exchanges?*, INVESTOPEDIA, <https://www.investopedia.com/tech/what-are-centralized-cryptocurrency-exchanges/> [<https://perma.cc/9CK3-8N5R>] (last updated July 31, 2023) [hereinafter Reiff, *Centralized Cryptocurrency Exchanges*]; Dock David Treece, *Binance vs. Coinbase: Which Crypto Exchange Is Right For You?*, FORBES (Sep. 1, 2023, 4:49 PM), <https://www.forbes.com/advisor/investing/cryptocurrency/binance-vs-coinbase/> [<https://perma.cc/WM9L-6XHN>] (last updated Sep. 1, 2023, 4:49 PM).

⁸⁷ See *Crypto Wallet Market Size, Share, and Growth Report*, GRAND VIEW RSCH., <https://www.grandviewresearch.com/industry-analysis/crypto-wallet-market-report> [<https://perma.cc/Z33Z-BD6F>] (last visited Oct. 1, 2023).

⁸⁸ See Reiff, *Centralized Cryptocurrency Exchanges*, *supra* note 86.

consist of dozens of different cryptos, all on the exchange.⁸⁹ However, when someone purchases cryptocurrency and leaves it on a centralized exchange, they do not own the cryptocurrency itself—rather, what they own is a redeemable ticket for the right to their cryptocurrency.⁹⁰

[26] There is a popular phrase amongst cryptocurrency enthusiasts: “not your keys, not your coins.”⁹¹ Each crypto token has a cryptographic key associated with it, and possessing the keys represents actual ownership of the cryptocurrency.⁹² As such, the person or exchange possessing the crypto keys is the sole custodian of the cryptocurrency, which means they can sell it, trade it, or send it as they please. When cryptocurrency is left on a centralized exchange, the exchange possesses the keys to your crypto, and you are entrusting a third party with custody of your funds.⁹³ Contrarily, crypto was created, in part, to establish a payment system where no third party has control over your funds.⁹⁴ A minority of crypto is stored off exchanges in crypto wallets, where the wallet owner possesses the crypto keys.⁹⁵

⁸⁹ See generally *id.* (comparing the centralized exchange to the stock market where instead of stocks, the portfolio comprises of various cryptos).

⁹⁰ See *Why and How to Withdraw Your Bitcoin from Exchanges*, BITCOIN MAG. (July 26, 2022), <https://bitcoinmagazine.com/guides/why-and-how-to-withdraw-your-bitcoin-from-exchanges> [<https://perma.cc/TE6B-ASLB>].

⁹¹ *Id.*

⁹² See *id.*

⁹³ *Id.*

⁹⁴ Nakamoto, *supra* note 11.

⁹⁵ See *Why and How to Withdraw Your Bitcoin from Exchanges*, *supra* note 90.

2. Storing Cryptocurrency on a Wallet

[27] There are dozens of different brands of crypto wallets available, and crypto wallets vary in which cryptocurrencies they are compatible with. Sending crypto from an exchange to a wallet is a fairly simple process: users input the amount of crypto they are sending and the recipient's crypto wallet address, and hit send.⁹⁶ Blockchains vary in how quickly they process transactions, but the crypto could be in the recipient's wallet within seconds.⁹⁷ Crypto wallets can be bifurcated into two general categories: software wallets and hardware wallets.

a. Software Wallets

[28] A software wallet is an entirely digital crypto wallet.⁹⁸ Software wallets are applications you can use on your computer or, in some instances, mobile phone.⁹⁹ MetaMask is a popular software wallet compatible with all Ethereum network cryptos.¹⁰⁰ MetaMask is free, takes only minutes to set up, and is a downloadable application on your internet browser and mobile

⁹⁶ See *Crypto transfers*, ROBINHOOD, <https://robinhood.com/us/en/support/articles/cryptocurrency-wallets/> [https://perma.cc/XS37-CRKV] (last visited Oct. 1, 2023).

⁹⁷ Harshini, *Top 10 Cryptocurrencies with Their High Transaction Speeds in 2023*, ANALYTICS INSIGHT (Mar. 20, 2023), <https://www.analyticsinsight.net/top-10-cryptocurrencies-with-their-high-transaction-speeds-in-2023/> [https://perma.cc/HAJ7-6RJG].

⁹⁸ See *What is Software Wallet*, BITDEGREE, <https://www.bitdegree.org/crypto/learn/crypto-terms/what-is-software-wallet> [https://perma.cc/96X6-J54Y] (last visited Oct. 1, 2023).

⁹⁹ *Id.*

¹⁰⁰ *Metamask: The Leading Non-Custodial Wallet*, BITDEGREE, <https://www.bitdegree.org/crypto/learn/what-is-metamask> [https://perma.cc/4M59-4UJZ] (last visited Oct. 1, 2023).

phone.¹⁰¹ In November of 2021, the MetaMask creator issued a press release claiming MetaMask surpassed 21 million monthly active users.¹⁰² Users creating a new MetaMask wallet receive a “seed phrase,”¹⁰³ which is a series of 12 to 24 randomly generated words that provides the data needed to recover a lost or broken crypto wallet.¹⁰⁴ Users will choose a password, which must be input every time the user logs into the wallet or tries to send funds from the wallet.¹⁰⁵

[29] A notable benefit of software wallets is that they provide users with the keys to their crypto; you can only access the crypto if you know a wallet owner’s login information.¹⁰⁶ Further, software wallets are very accessible, and it is easy to send or receive crypto on them (if you know the login information).¹⁰⁷ For this reason, software wallets are often called “hot”

¹⁰¹ *See id.*

¹⁰² *MetaMask Surpasses 21 Million MAUs as Consensys Raises \$200 Million to Make Web3 Universally Easy to Use, Access, and Build On*, CONSENSYS (Nov. 17, 2021), <https://consensys.net/blog/press-release/metamask-surpasses-21-million-maus-as-consensys-raises-200-million-%20to-make-web3-universally-easy-to-use-access-and-build-on/> [<https://perma.cc/57E9-WJ8V>].

¹⁰³ *User Guide: Secret Recovery Phrase, password, and private keys*, METAMASK (Mar. 2023), <https://support.metamask.io/hc/en-us/articles/4404722782107-User-Guide-Secret-Recovery-Phrase-password-%20and-private-keys> [<https://perma.cc/GL2E-V6H5>].

¹⁰⁴ *Id.*

¹⁰⁵ *See id.*

¹⁰⁶ *See id.*

¹⁰⁷ *See Frequently Asked Questions*, METAMASK, <https://metamask.io/faqs/> [<https://perma.cc/AF96-4U6F>].

wallets.¹⁰⁸ The biggest disadvantage of software wallets is that the wallets are connected to the internet, which exposes them to viruses or hackers.¹⁰⁹ Hardware wallets, often called “cold” wallets, are the most secure option available for holding and storing crypto.¹¹⁰

b. Hardware Wallets

[30] Hardware wallets are physical devices used to store your crypto’s keys offline.¹¹¹ Ledger and Trezor are among the highest respected hardware wallet manufacturers.¹¹² The Ledger Nano X is similar in size and appearance to a thumb drive, and the offline storage can be accessed with a Bluetooth or USB connection on a computer or mobile phone.¹¹³ The Trezor Model T is regarded as one of the most secure hardware wallets and is compatible with over 1,000 different cryptocurrencies, including Bitcoin.¹¹⁴ The greatest advantage hardware wallets have over software wallets is the additional security from storing your crypto offline. Hardware wallets are typically left entirely disconnected from a computer, which is why people

¹⁰⁸ CFI Team, *Cryptocurrency Wallet*, CORP. FIN. INS. (Feb. 1, 2023), <https://corporatefinanceinstitute.com/resources/cryptocurrency/cryptocurrency-wallet/> [https://perma.cc/BV6J-4DCR].

¹⁰⁹ Patrick McGimpsey, *Hardware Wallets Explained*, FORBES ADVISOR AUSTR., <https://www.forbes.com/advisor/au/investing/cryptocurrency/hardware-wallets-explained/> [https://perma.cc/3D6U-EBR9] (last updated Mar. 14, 2023, 12:12 PM).

¹¹⁰ CFI Team, *supra* note 108.

¹¹¹ McGimpsey, *supra* note 109.

¹¹² *Id.*

¹¹³ *See Ledger Nano X*, LEDGER, <https://shop.ledger.com/products/ledger-nano-x> [https://perma.cc/Y8VL-GBJN] (last visited Oct. 6, 2023).

¹¹⁴ Evan Jones, *Trezor Model T Review: Still Worth the Hype in 2023?*, CRYPTOVANTAGE (Oct. 6, 2023), <https://www.cryptovantage.com/best-crypto-wallets/trezor-model-t/> [https://perma.cc/BPN8-P9Q3].

refer to them as “cold” wallets.¹¹⁵ However, software wallets are free, while the Ledger Nano X and Trezor Model T currently cost \$149.00 and \$219.00, respectively.¹¹⁶

[31] The global crypto wallet market size was valued at \$8.42 billion in 2022, and some projections indicate that figure will grow at 24.8% per year from 2023 to 2030.¹¹⁷ Increasingly, individuals are opting to hold their crypto in their own wallets rather than leaving it on a centralized exchange, and there is one person in particular to thank for that: Sam Bankman-Fried, founder of the once-popular crypto exchange, FTX.

3. Not Your Keys, Not Your Coins: Sam Bankman-Fried and FTX

[32] Sam Bankman-Fried is a 31-year-old M.I.T. graduate and convicted felon.¹¹⁸ In 2017, he exploited an arbitrage in the Bitcoin markets known as the “Kimchi Swap,” where he would purchase Bitcoin on one crypto exchange and sell it on exchanges in other countries posting higher

¹¹⁵ CFI Team, *supra* note 108.

¹¹⁶ *Ledger Nano X*, *supra* note 113; *Trezor Model T*, TREZOR, https://trezor.io/trezor-model-t?gclid=Cj0KCQjw8e-gBhD0ARIsAJiDsaWSIFTATNkIII2r398HdjGmimweZWm7xirAv-Ztzg705jJ-ruL3LMAge6EALw_wcB [<https://perma.cc/EQZ6-5SAH>] (last visited Oct. 6, 2023).

¹¹⁷ *Crypto Wallet Market Size, Share & Growth Report*, *supra* note 87.

¹¹⁸ David Gura, *Sam Bankman-Fried is found guilty of all charges in FTX's spectacular collapse*, NPR, <https://www.npr.org/2023/11/02/1210100678/sam-bankman-fried-trial-verdict-ftx-crypto> [<https://perma.cc/K5U8-C4DX>] (last updated Nov. 2, 2023, 10:20 PM).

prices.¹¹⁹ Bankman-Fried wanted to scale his operation, so he founded Alameda Research.¹²⁰ Alameda Research was wildly successful, and Bankman-Fried used his earnings and lured capital from investors to found his very own crypto exchange, FTX, in 2019.¹²¹ Alameda Research and FTX operated alongside each other inside FTX's office headquarters in the Bahamas.¹²²

[33] In 2021 alone, FTX facilitated \$719 billion in crypto exchanges.¹²³ By January of 2022, FTX was the third-largest cryptocurrency exchange in

¹¹⁹ MacKenzie Sigalos, *From \$32 billion to criminal investigations: How Sam Bankman-Fried's crypto empire vanished overnight*, CNBC, <https://www.cnbc.com/2022/11/15/how-sam-bankman-frieds-ftx-alameda-empire-vanished-overnight.html> [https://perma.cc/7ARD-BAJF] (last updated Nov. 16, 2022, 12:05 AM).

¹²⁰ *Id.*

¹²¹ Whizy Kim, *Sam Bankman-Fried's arrest is the culmination of an epic flameout*, VOX, <https://www.vox.com/the-goods/23458837/sam-bankman-fried-ftx-sbf-downfall-explained> [https://perma.cc/T4N6-9PDQ] (last updated Dec. 22, 2022, 3:11 PM).

¹²² Tracy Wang, *Bankman-Fried's Cabal of Roommates in the Bahamas Ran His Crypto Empire – and Dated. Other Employees Have Lots of Questions*, COINDESK, <https://www.coindesk.com/business/2022/11/10/bankman-frieds-cabal-of-roommates-in-the-bahamas-ran-his-crypto-empire-and-dated-other-employees-have-lots-of-questions/> [https://perma.cc/PJ7J-X6XP] (last updated Aug. 16, 2023, 5:57 PM).

¹²³ David Curry, *FTX Revenue and Usage Statistics (2023)*, BUS. OF APPS, <https://www.businessofapps.com/data/ftx-statistics/> [https://perma.cc/TJZ2-C9GP] (last updated Jan. 9, 2023).

the world and boasted a \$32 billion valuation.¹²⁴ FTX struck partnerships with household names like Visa, MLB, Tom Brady, Stephen Curry, and Kevin O’Leary.¹²⁵ Bankman-Fried had a net worth of approximately \$16 billion, and people were comparing him to finance magnates like Warren Buffet.¹²⁶ Bankman-Fried was viewed as a visionary; FTX created its own crypto called FTT, which reached an all-time-high price of \$85.02 per coin in September 2021, representing a \$12.73 billion market cap.¹²⁷ People felt comfortable leaving their funds on FTX because they trusted Bankman-Fried with the keys to their crypto.¹²⁸ FTX, and Bankman-Fried’s public

¹²⁴ Ryan Browne, *Cryptocurrency exchange FTX hits \$32 billion valuation despite bear market fears*, CNBC, <https://www.cnbc.com/2022/01/31/crypto-exchange-ftx-valued-at-32-billion-amid-bitcoin-price-plunge.html> [<https://perma.cc/T574-XY5J>] (last updated Jan. 31, 2022, 7:44 PM); Nathan Reiff, *The Collapse of FTX: What Went Wrong With the Crypto Exchange?*, INVESTOPEDIA, <https://www.investopedia.com/what-went-wrong-with-ftx-6828447> [<https://perma.cc/ZM89-AK3M>] (last updated Feb. 27, 2023) [hereinafter Reiff, *The Collapse of FTX*].

¹²⁵ Luc Olinga, *FTX Collapse: Tom Brady, Steph Curry and ‘Mr. Wonderful’ Are in Big Trouble*, THE STREET CRYPTO (Nov. 16, 2022, 4:35 PM), <https://www.thestreet.com/cryptocurrency/ftx-collapse-tom-brady-steph-curry-and-mr-wonderful-are-in-big-trouble> [<https://perma.cc/FG2W-5W3N>]; Kate Rooney, *Visa partners with FTX in a bet that shoppers still want to spend cryptocurrencies in a bear market*, CNBC, <https://www.cnbc.com/2022/10/07/visa-partners-with-ftx-in-a-bet-that-shoppers-still-want-to-spend-cryptocurrencies-in-a-bear-market.html> [<https://perma.cc/MML2-W8MM>] (last updated Oct. 7, 2022, 10:34 AM); Justin Byers, *MLB Latest To Cut Ties With FTX*, FRONT OFFICE SPORTS (Nov. 18, 2022, 02:02 PM), <https://frontofficesports.com/mlb-latest-to-cut-ties-with-ftx/> [<https://perma.cc/EUL2-LJRP>].

¹²⁶ Kim, *supra* note 121.

¹²⁷ *FTX Token price today, FTT to USD live price, marketcap and chart*, COINMARKETCAP, <https://coinmarketcap.com/currencies/ftx-token/> [<https://perma.cc/NUB3-UPV5>] (last visited Oct. 6, 2023).

¹²⁸ See Allison Morrow, *Customers who trusted crypto giant FTX may be left with nothing*, CNN, <https://www.cnn.com/2022/11/14/business/ftx-customer-money-bankruptcy/index.html> [<https://perma.cc/M46F-QEL8>] (last updated Nov. 15, 2022, 4:35 AM).

perception, came crashing down within hours after a few tweets from Changpeng Zhao (CZ), the CEO of FTX's rival crypto exchange, Binance.¹²⁹

[34] Bankman-Fried's original business venture, Alameda Research, was in a \$10 billion hole as a result of speculative venture investments, lavish real estate investments, and large political donations.¹³⁰ In an effort to keep Alameda Research afloat, Bankman-Fried misappropriated FTX's customers' funds to Alameda Research.¹³¹ Binance held a minority stake in FTX, but exited the investment in 2021 and received \$2.1 billion in cryptocurrencies in return, including FTT coins worth \$529 million.¹³² On November 6, 2022—allegedly after CZ realized Bankman-Fried was misappropriating customer funds—CZ tweeted his intention to sell Binance's \$529 million worth of FTT coins.¹³³ After CZ's ominous tweet, many investors began withdrawing their funds from FTX as quickly as possible, which led to a multi-billion dollar liquidity crisis.¹³⁴ FTX lacked the solvency to fulfill its customers' withdrawals, so FTX suspended

¹²⁹ See Sigalos, *supra* note 119.

¹³⁰ See Complaint at 2, SEC v. Sam Bankman-Fried, No. 22-cv-10501 (S.D.N.Y. Dec. 13, 2022), <https://www.sec.gov/files/litigation/complaints/2023/comp25616.pdf> [<https://perma.cc/UR8X-N8F8>].

¹³¹ *Id.*

¹³² Olga Kharif, *Binance to Sell \$529 Million of Bankman-Fried's FTT Token*, BLOOMBERG (Nov. 6, 2022, 2:12 PM), <https://www.bloomberg.com/news/articles/202211-06/binance-to-sell-529-million-of-ftt-token-amids-revelations#xj4y7vzkg> [<https://perma.cc/47CB-D4BM>].

¹³³ Sigalos, *supra* note 119.

¹³⁴ Samantha Delouya, *Sam Bankman-Fried reportedly said it was a mistake to pick a fight with Binance CEO Changpeng Zhao: 'not a good strategic move on my part'*, BUS. INSIDER (Nov. 14, 2022, 8:15 PM), <https://www.businessinsider.com/sam-bankman-fried-ftx-binance-changpeng-zhao-cz-crypto-report-2022-11> [<https://perma.cc/UKX8-8QRF>].

withdrawals, and customers could not get their funds back out of the exchange.¹³⁵

[35] FTX filed for bankruptcy on November 11, 2022, just five days after CZ's tweet.¹³⁶ On December 12, 2022, Bankman-Fried was arrested in the Bahamas after the United States Department of Justice indicted him on eight counts, including conspiracy to commit wire fraud, wire fraud, conspiracy to commit commodities fraud, conspiracy to commit securities fraud, conspiracy to commit money laundering, and conspiracy to defraud the Federal Election Commission and commit campaign finance violations.¹³⁷ Sam Bankman-Fried was ordered to remain on house arrest after posting a \$250 million bond, but was remanded to jail after being accused of witness tampering.¹³⁸ And on November 2, 2023, a jury found Sam Bankman-Fried guilty of two counts of wire fraud and five counts charging conspiracies to commit wire fraud, securities fraud, commodities fraud, and money

¹³⁵ Niket Nishant, *FTX suspends addition of new clients, withdrawals*, REUTERS (Nov. 10, 2022, 6:35 AM), <https://www.reuters.com/technology/ftx-suspends-onboarding-new-clients-2022-11-10/> [<https://perma.cc/Z7TZ-4NSB>].

¹³⁶ Ryan Browne, *FTX says it could have over 1 million creditors in new bankruptcy filing*, CNBC, <https://www.cnbc.com/2022/11/15/ftx-says-could-have-over-1-million-creditors-in-new-bankruptcy-filing.html> [<https://perma.cc/VBL9-TR3P>] (last updated Nov. 15, 2022, 2:14 PM).

¹³⁷ Press Release, U.S. Att'y Off., S. Dist. N.Y., United States Attorney Announces Charges Against FTX Founder Samuel Bankman-Fried (Dec. 13, 2022), <https://www.justice.gov/usao-sdny/pr/united-states-attorney-announces-charges-against-ftx-founder-samuel-bankman-fried> [<https://perma.cc/FE3Z-V3DU>].

¹³⁸ Luc Cohen & Jody Godoy, *FTX's Bankman-Fried headed for jail over alleged witness tampering*, REUTERS (Aug. 11, 2023, 7:22 PM), <https://www.reuters.com/legal/ftx-bankman-fried-seeking-avoid-jail-due-back-court-2023-08-11/> [<https://perma.cc/JG7G-YRJ>].

laundering.¹³⁹ He is facing up to 115 years in prison and will be sentenced in March of 2024.¹⁴⁰

[36] Crypto investors who did not transfer their assets to their own wallets and instead left their funds on the FTX exchange became creditors to a bankruptcy proceeding rather than customers of a trusted exchange.¹⁴¹ According to a September 11, 2023 bankruptcy filing, bankruptcy advisors have recovered approximately \$7 billion of FTX assets, which pales in comparison to the \$16 billion in customer claims and \$65 billion of non-customer claims filed with FTX's bankruptcy advisors.¹⁴²

[37] In short, when a crypto investor leaves their crypto on a centralized exchange, the centralized exchange has actual possession of the crypto because they retain possession over the crypto keys.¹⁴³ To have actual possession of their crypto's keys, investors must transfer the crypto from an exchange to a hardware or software wallet.¹⁴⁴ Bankman-Fried was able to

¹³⁹ McKenzie Sigalos, *Sam Bankman-Fried found guilty on all seven criminal fraud counts*, CNBC (Nov. 2, 2023 at 7:51 PM), <https://www.cnbc.com/2023/11/02/sam-bankman-fried-found-guilty-on-all-seven-criminal-fraud-counts.html> [https://perma.cc/Q59S-KKD4].

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² Notice of Presentation to Stakeholders at 8-9, In re FTX Trading LTD., No. 22-11068 (Bankr. D. Del. Sep. 11, 2023), https://assets.bwbx.io/documents/users/iqjWHBFdfxIU/rGgh7D1z_38/v0 [https://perma.cc/7MWC-87GH].

¹⁴³ Gaurav Roy, *What is a Centralized Cryptocurrency Exchange (CEX)?*, LEDGER ACAD. (June 16, 2023), <https://www.ledger.com/academy/topics/crypto/what-is-a-centralized-cryptocurrency-exchange-cex> [https://perma.cc/N3LP-RLMU].

¹⁴⁴ Jake Frankenfield et al., *Cryptocurrency Wallet: What It Is, How It Works, Types, Security*, INVESTOPEDIA, <https://www.investopedia.com/terms/b/bitcoin-wallet.asp> [https://perma.cc/9CKN-2S9D] (last updated Aug. 29, 2023).

steal billions of dollars from FTX's customers because they entrusted FTX with their crypto's keys.¹⁴⁵

[38] The FTX bankruptcy and Bankman-Fried's thefts had a chilling effect on the crypto industry, as evidenced by the crypto market cap falling by \$183 billion in the days following CZ's tweet.¹⁴⁶ Investors were left questioning how Bankman-Fried could steal billions of dollars from customers without a government agency first uncovering the scam. Crypto exchanges across the world had to regain their customers' trust. One exchange, Coinbase, acted quickly to tell the world how it was different from FTX.¹⁴⁷

4. Coinbase: A Crypto Exchange Headquartered in the United States

[39] Coinbase, the largest crypto exchange in the United States, has approximately 110 million verified users and close to \$80 billion in assets on the platform.¹⁴⁸ In the days following the FTX bankruptcy, Coinbase went on the offensive by obtaining a full-page advertisement in the Wall

¹⁴⁵ Rohan Goswami & MacKenzie Sigalos, *How Sam Bankman-Fried swindled \$8 billion in customer money, according to federal prosecutors*, CNBC, <https://www.cnbc.com/2022/12/18/how-sam-bankman-fried-ran-8-billion-fraud-government-prosecutors.html> [<https://perma.cc/763H-FU8R>] (last updated Dec. 19, 2022, 2:06 PM).

¹⁴⁶ Lyllah Ledesma, *FTX Collapse Leaves Total Crypto Market Cap Under \$800B, Close to 2022 Low*, COINDESK (Nov. 17, 2022, 5:05 PM), <https://www.coindesk.com/markets/2022/11/17/ftx-collapse-leaves-total-crypto-market-cap-under-800b-close-to-2022-low/> [<https://perma.cc/76L8-DFG5>].

¹⁴⁷ Steve Mollman, *Coinbase CEO Brian Armstrong says it's 'baffling' FTX's Sam Bankman-Fried isn't 'in custody already'*, YAHOO (Dec. 3, 2022), <https://www.yahoo.com/video/coinbase-ceo-brian-armstrong-says-231208022.html> [<https://perma.cc/A46A-33BM>].

¹⁴⁸ Will Robinson, *Introducing Base*, COINBASE (Feb. 23, 2023), <https://www.coinbase.com/blog/introducing-base> [<https://perma.cc/T72A-ECN2>].

Street Journal that read, “Trust us.” in a prominent typeface.¹⁴⁹ Below the eye-catching plea for trust, Coinbase explained to its audience that:

We are headquartered in the United States; We hold our customers’ assets 1:1; We don’t trade against our customers, and we don’t leverage their funds without consent; We provide the transparent accounting and audits that are required of a public company[.]¹⁵⁰

[40] In short, Coinbase relied on its United States roots, promised to never touch or interfere with its customers’ funds without consent, and noted the regulations and reporting requirements United States public corporations must follow.¹⁵¹ So, what are the regulations surrounding a public company in the United States operating a crypto exchange, and how is crypto regulated if it is in someone’s wallet? Who in the United States federal government should have known about FTX’s scheme and protected investors, if anyone? Section III addresses these questions.

III. HOW THE UNITED STATES REGULATES CRYPTOCURRENCY

[41] United States federal agencies have attempted to apply an already-existing regulatory framework to a brand-new technology.¹⁵² In some cases, cryptocurrency is categorized as a commodity, the same asset-type as eggs and wheat, and subject to the Commodity Futures Trading Commission’s

¹⁴⁹ Patrick Coffee, *Crypto Brands Reposition Themselves in Wake of FTX and Market Tumble*, WALL ST. J. (Feb. 7, 2023, 6:00 AM), <https://www.wsj.com/articles/crypto-brands-reposition-themselves-in-wake-of-ftx-and-market-tumble-11675731537> [<https://perma.cc/DZ7E-PDF5>].

¹⁵⁰ Max Erdenberger, *Coinbase – Trust Us*, ERDENBERGER, <https://www.erdenberger.me/project/coinbase-trust-us> [<https://perma.cc/A7GH-86QF>].

¹⁵¹ *Id.*

¹⁵² *Id.*

(CFTC) jurisdiction.¹⁵³ In other cases, cryptocurrency is categorized as a security and treated like stock in a company, which is regulated by the Securities and Exchange Commission (SEC).¹⁵⁴ Both the CFTC and SEC have exerted their jurisdiction over cryptocurrencies in different circumstances, even though cryptocurrencies have qualities distinct from both commodities and securities.¹⁵⁵ Thus, the answer to the question of how the United States regulates cryptocurrency is “it depends.”

A. Congressional Power Under the Constitution: The SEC and the CFTC

[42] The U.S. Constitution grants Congress with the power “to regulate commerce with foreign nations, among States”¹⁵⁶ This Constitutional provision, known as the Commerce Clause, has been interpreted broadly and grants Congress the power to regulate a wide range of activities.¹⁵⁷ The Constitution also grants Congress the power to create its own agencies and

¹⁵³ Robert Stevens, *Securities vs. Commodities: Why It Matters For Crypto*, COINDESK, <https://www.coindesk.com/learn/securities-vs-commodities-why-it-matters-for-crypto/> [<https://perma.cc/UF2N-TJLF>] (last updated May 5, 2023, 11:16 AM).

¹⁵⁴ *Id.*

¹⁵⁵ See Timothy G. Massad & Howell E. Jackson, *How to Improve Regulation of Crypto Today—Without Congressional Action—and Make the Industry Pay For It*, BROOKINGS INST., 1–10 (Working Paper No. 79, 2022), <https://www.brookings.edu/wp-content/uploads/2022/10/WP79-Massad-Jackson-updated-2.pdf> [<https://perma.cc/43E2-WJXZ>]; see also Cheryl L. Isaac et al., *CFTC and SEC Perspectives on Cryptocurrency and Digital Assets – Volume I: A Jurisdictional Overview*, K&L GATES, 1–3, 5–7 (May 6, 2022), <https://www.klgates.com/CFTC-and-SEC-Perspectives-on-Cryptocurrency-and-Digital-Assets-Volume-I-A-Jurisdictional-Overview-5-6-2022> [<https://perma.cc/779S-KJW8>].

¹⁵⁶ U.S. CONST. art. I, § 8, cl. 3.

¹⁵⁷ *Commerce Clause*, CORNELL L. SCH.: LEGAL INFO. INST., https://www.law.cornell.edu/wex/commerce_clause [<https://perma.cc/KZ4N-7TEX>] (last updated July 2022).

delegate those agencies law-making power over certain issues.¹⁵⁸ Congress used its Commerce Clause and delegation powers to protect investors and avoid fraud on markets when it established the SEC and CFTC.¹⁵⁹

[43] After the stock market crash of 1929, Congress passed the Securities Act of 1933 and the Securities Exchange Act of 1934.¹⁶⁰ Together, the securities laws require publicly traded companies to register with the SEC; disclose financial and other important information; and refrain from engaging in certain types of fraud, deceit, and misrepresentation.¹⁶¹ The Securities Act of 1933 regulates companies selling their securities directly to the public,¹⁶² while the Securities Exchange Act of 1934 regulates securities transactions on secondary markets.¹⁶³ The 1934 Act also

¹⁵⁸ U.S. CONST. art. I, § 1.

¹⁵⁹ See *Mission*, SEC, <https://www.sec.gov/about/mission> [<https://perma.cc/MXU6-X8TZ>] (last modified Aug. 29, 2023); see also John H. Stassen, *The Commodity Exchange Act In Perspective a Short and Not-So-Reverent History of Futures Trading Legislation In the United States*, 39 WASH. & LEE L. REV. 825, 830, 832–835 (1982).

¹⁶⁰ *The Role of the SEC*, INV.GOV, <https://www.investor.gov/introduction-investing/investing-basics/role-sec> [<https://perma.cc/YV7B-8CYK>] (last visited Sept. 24, 2023).

¹⁶¹ See *The Laws That Govern the Securities Industry*, SEC, <https://www.sec.gov/about/about-securities-laws> [<https://perma.cc/9D83-P5HM>] (last modified Oct. 1, 2013).

¹⁶² *What Is the Securities Act of 1933?*, WINSTON & STRAWN, <https://winston.com/en/legal-glossary/what-is-securities-act-of-1933> [<https://perma.cc/6PSU-SW2L>] (last visited Sept. 24, 2023).

¹⁶³ Will Kenton, *What Is the Securities Exchange Act of 1934? Reach and History*, INVESTOPEDIA, <https://www.investopedia.com/terms/s/seact1934.asp> [<https://perma.cc/3E9T-4YMU>] (last updated Feb. 24, 2023).

established the SEC, which is tasked with enforcing both Acts and aims to ensure a transparent and fair environment for investors.¹⁶⁴

[44] In 1936, Congress created the Commodity Exchange Commission (CEC) when it passed the Commodity Exchange Act (CEA).¹⁶⁵ Congress tasked the CEC with regulating the commodities enumerated in the CEA: cotton, rice, mill feeds, butter, eggs, Irish potatoes, and grains.¹⁶⁶ Congress also tasked the CEC with overseeing futures contracts of the enumerated commodities, and the Commodity Exchange Administration was formed under the Department of Agriculture.¹⁶⁷ In 1974, Congress amended the CEA when it passed the Commodity Futures Trading Commission Act of 1974, and the CEA turned into its own independent agency, the CFTC.¹⁶⁸ Congress granted the CFTC with “powers greater than those of its predecessor agency” by giving it exclusive jurisdiction over futures trading in *all* commodities—beyond those specifically enumerated in the 1936 Act.¹⁶⁹

¹⁶⁴ *Id.*

¹⁶⁵ *US Futures Trading and Regulation Before the Creation of the CFTC*, CFTC, https://www.cftc.gov/About/HistoryoftheCFTC/history_precftc.html [<https://perma.cc/8Z9V-CCCQ>] (last visited Sept. 24, 2023) [hereinafter *US Futures Trading and Regulation*].

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ See Dan M. Berkovitz, Gen. Couns., CFTC, Position Limits and the Hedge Exemption, Brief Legislative History (July 28, 2009), <https://www.cftc.gov/PressRoom/SpeechesTestimony/berkovitzstatement072809> [<https://perma.cc/D4D8-GFNF>].

¹⁶⁹ *CFTC History in the 1970s*, CFTC, https://www.cftc.gov/About/HistoryoftheCFTC/history_1970s.html [<https://perma.cc/24EB-LYL6>] (last visited Sept. 24, 2023).

[45] The CFTC decided that cryptocurrencies are commodities in some contexts and are thus subject to CFTC regulatory oversight.¹⁷⁰ On the other hand, the SEC decided that cryptocurrencies are securities in some contexts and thus are subject to SEC regulatory oversight.¹⁷¹ Solutions to regulating cryptocurrencies will continue to develop in the future, but the United States federal government has employed a bifurcated approach to resolving this novel issue thus far.

B. Regulating Cryptocurrencies as Commodities

[46] The Commodity Exchange Act defines a commodity as “wheat, cotton, rice, corn, oats . . . butter, eggs, . . . and all other goods and articles, . . . and all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.”¹⁷² At first glance, it appears cryptocurrencies would not fall within this definition of “commodity”—especially considering the CEA’s original purpose was to regulate agricultural commodities.¹⁷³ However, the CFTC employed this definition and argued that Bitcoin was a commodity in *In the Matter of Coinflip, Inc.*¹⁷⁴

¹⁷⁰ *An Introduction to Virtual Currency*, CFTC, https://www.cftc.gov/sites/default/files/2019-12/oceo_aivc0218.pdf [<https://perma.cc/VKN5-TZ5X>] (last visited Sept. 24, 2023).

¹⁷¹ See Press Release, SEC, SEC Charges Ripple and Two Executives with Conducting \$1.3 Billion Unregistered Securities Offering (Dec. 22, 2020), www.sec.gov/news/press-release/2020-338 [<https://perma.cc/CRE2-WMBR>] [hereinafter SEC Press Release].

¹⁷² Commodity Exchange Act, 7 U.S.C. § 1a(9) (2010).

¹⁷³ *US Futures Trading and Regulation*, *supra* note 165.

¹⁷⁴ See *Coinflip, Inc.*, C.T.F.C. Docket No. 15-29 at 2 (Commodity Trading Futures Comm’n Sept. 16, 2015) (initiation).

1. In the Matter of Coinflip

[47] Coinflip, owned and operated by Francisco Riordan, was a Delaware corporation operating in San Francisco, California.¹⁷⁵ Coinflip operated a website, derivabit.com, which connected buyers and sellers of standardized Bitcoin options and futures contracts.¹⁷⁶ Coinflip users were first required to register an account and deposit Bitcoin.¹⁷⁷ After that, Coinflip users could post bids and offers for Bitcoin options contracts or accept other users' Bitcoin put and call options.¹⁷⁸ At the conclusion of an option contract, premiums and payments of settlement were paid using Bitcoin at a spot rate determined by a third-party Bitcoin exchange.¹⁷⁹ Under the CEA, platforms offering futures contracts on commodities must be registered with the CFTC as an exchange.¹⁸⁰ The CFTC alleged that Coinflip:

violated Sections 4c(b) and 5h(a)(1) of the Act and Commission Regulations 32.2 and 37.3(a)(1) by conducting activity related to commodity options contrary to Commission Regulations and by operating a facility for the trading or processing of swaps without being registered as a swap execution facility or designated contract market.¹⁸¹

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* at 3.

¹⁷⁸ *Id.* at 2–3.

¹⁷⁹ Coinflip, Inc., *supra* note 174.

¹⁸⁰ *Id.* at 4.

¹⁸¹ *Id.* at 2.

[48] Thus, in determining whether Coinflip violated the CEA and CFTC Regulations, the sole issue was whether Bitcoin classified as a commodity.¹⁸²

[49] In the CFTC's Order in *Coinflip*, the CFTC stated that "Virtual Currencies Such as Bitcoin are Commodities[.]" and provided that:

Section 1a(9) of the Act defines "commodity" to include, among other things, "all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in." 7 U.S.C. § 1a(9). The definition of a "commodity" is broad . . . Bitcoin and other virtual currencies are encompassed in the definition and properly defined as commodities.¹⁸³

[50] In short, the CFTC relied on case law, which held that the definition of commodity is "broad," and concluded that Bitcoin and other virtual currencies are properly defined as commodities.¹⁸⁴ That is the extent of the CFTC's legal analysis in its Order in *Coinflip*.

[51] Coinflip submitted an offer to the CFTC waiving its right to a trial and agreed to cease its operations as an unregistered swap execution facility.¹⁸⁵ This was the first time the CFTC characterized a cryptocurrency as a commodity.¹⁸⁶ However, it was a proper case for the CFTC to exert its

¹⁸² *Id.* at 3.

¹⁸³ *Id.*

¹⁸⁴ Coinflip, Inc., *supra* note 174.

¹⁸⁵ *Id.* at 1.

¹⁸⁶ Matt Clinch, *Bitcoin now classed as a commodity in the US*, CNBC, <https://www.cnbc.com/2015/09/18/bitcoin-now-classed-as-a-commodity-in-the-us.html> [<https://perma.cc/DP65-V57L>] (last updated Sep. 18, 2015, 3:48 PM).

jurisdiction over cryptocurrencies because Coinflip was offering futures contracts on Bitcoin, thus falling within the CFTC's jurisdiction over futures contracts dealing in "goods."¹⁸⁷ It was unclear whether the CFTC would exert its jurisdiction over cryptocurrencies outside the context of futures contracts until the CFTC charged Patrick McDonnell in 2018 for his role with his fraudulent company, Coin Drop Markets.¹⁸⁸

2. CFTC v. Patrick K. McDonnell and Cabbage Tech, Corp. d/b/a Coin Drop Markets

[52] Coin Drop Markets advertised itself as a team of Wall Street crypto trading advisors and offered membership subscriptions where members would receive expert trading advice and investment services.¹⁸⁹ In reality, McDonnell was operating Coin Drop Markets alone in his Staten Island basement, he never provided any expert crypto trading advice to his customers, and he lied about his investing experience.¹⁹⁰ Some members only purchased memberships from McDonnell to receive investing advice.¹⁹¹ Other investors were lured by McDonnell's promises of 200 to 300% daily returns and thus transferred their crypto to Coin Drop Markets.¹⁹² After receiving \$290,429.29 from members,¹⁹³ McDonnell deleted Coin Drop Markets' social media accounts and websites and ceased

¹⁸⁷ *Fast Answers: Commodity Futures Trading Commission*, SEC, <https://www.sec.gov/fast-answers/answers-cftc> [<https://perma.cc/F6UY-TVDT>] (last updated May 26, 2010).

¹⁸⁸ CFTC v. McDonnell, No. 18-CV-361, 2018 U.S. Dist. LEXIS 146576, at *27–28 (E.D.N.Y. Aug. 23, 2018).

¹⁸⁹ *Id.* at *7.

¹⁹⁰ *Id.* at *8.

¹⁹¹ *Id.* at *29.

¹⁹² *Id.* at *31.

¹⁹³ *McDonnell*, 2018 U.S. Dist. LEXIS 146576, at *43.

communications with investors (also known as a “rug pull” in the cryptocurrency market).¹⁹⁴ The CFTC alleged that Coin Drop Market operated “a deceptive and fraudulent virtual currency scheme . . . for purported virtual currency trading advice” and “for virtual currency purchases and trading . . . and simply misappropriated [investor] funds.”¹⁹⁵

[53] The CFTC filed charges against McDonnell in the United States District Court of the Eastern District of New York, seeking a preliminary injunction.¹⁹⁶ McDonnell (who represented himself) filed a motion to dismiss and argued the CFTC lacked jurisdiction over the Coin Drop Market scheme because crypto was not a commodity.¹⁹⁷ The court had to decide two questions presented in order to determine whether the CFTC had jurisdiction over McDonnell: (1) whether virtual currency may be regulated by the CFTC as a commodity; and (2) whether the amendments to the CEA under the Dodd-Frank Act permit the CFTC to exercise its jurisdiction over fraud that does not directly involve the sale of futures or derivatives contracts.¹⁹⁸ In granting the CFTC’s preliminary injunction, the court held that “[b]oth questions are answered in the affirmative.”¹⁹⁹ The court began

¹⁹⁴ *Id.* at *8; Rosie Perper, *What Is a Rug Pull? How to Protect Yourself From Getting ‘Rugged’*, COINDESK, <https://www.coindesk.com/learn/what-is-a-rug-pull-how-to-protect-yourself-from-getting-rugged/> [<https://perma.cc/X549-PX36>] (last updated May 11, 2023, 12:50 PM).

¹⁹⁵ *McDonnell*, 2018 U.S. Dist. LEXIS 146576, at *10.

¹⁹⁶ Press Release, CFTC, Federal Court in New York Enters Preliminary Injunction Order against Patrick K. McDonnell and His Company CabbageTech, Corp. d/b/a Coin Drop Markets in Connection with Fraudulent Virtual Currency Scheme (Mar. 6, 2018), <https://www.cftc.gov/PressRoom/PressReleases/7702-18> [<https://perma.cc/2TNT-LKKM>].

¹⁹⁷ *See* CFTC v. McDonnell, 287 F. Supp. 3d 213 (E.D.N.Y. Mar. 6, 2018).

¹⁹⁸ *Id.* at 217.

¹⁹⁹ *Id.*

its opinion by saying: “Until Congress clarifies the matter, the CFTC has concurrent authority, along with other state and federal administrative agencies . . . over dealings in virtual currency.”²⁰⁰

[54] In answering the first question presented, the *McDonnell* court relied on the CEA’s broad definition of “commodity,”²⁰¹ holding that “[a] ‘commodity’ encompasses virtual currency both in economic function and in the language of the statute.”²⁰² According to the court, cryptocurrencies are “goods” exchanged in a market for a uniform quality and value, falling within both the common definition of “commodity” and the CEA’s definition of “commodities” as broadly encompassing “all . . . goods”²⁰³

[55] Addressing the second question presented, the court held that the CFTC’s “broad [statutory] authority . . . extends to fraud or manipulation in the virtual currency derivatives market and its underlying spot market[.]”²⁰⁴ and that the CFTC “may exercise its enforcement power over fraud related to virtual currencies transacted in interstate commerce.”²⁰⁵ In the end, the court held McDonnell liable for violating CEA § 6(c)(1) and CFTC Regulation 180.1 for engaging in fraudulent activity in connection with commodities.²⁰⁶ The CFTC obtained a judgment against McDonnell

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *McDonnell*, 287 F. Supp. 3d at 217 (showing that the CEA defines “commodity” as agricultural products and “all other goods and articles . . . and all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.”).

²⁰³ *Id.* at 228.

²⁰⁴ *Id.* at 217.

²⁰⁵ *Id.*

²⁰⁶ *Id.* at 234.

totaling over \$1.1 million, of which \$290,429.29 was awarded as restitution as well as a civil monetary penalty of \$871,287.87 (which was three times the amount McDonnell stole from customers under the statute's treble damages provision).²⁰⁷ Further, McDonnell was permanently banned from trading in cryptocurrencies.²⁰⁸

[56] The *McDonnell* case was the first time a federal district court held that cryptocurrency fell under the definition of a commodity.²⁰⁹ As a result, some crypto exchanges (including FTX) filed with the CFTC as required under the Commodities Exchange Act.²¹⁰ However, the SEC defined and regulated cryptocurrencies differently.²¹¹ Before the CFTC asserted its jurisdiction over cryptocurrencies as commodities, the SEC exerted its jurisdiction over investment contracts dealing in cryptocurrencies.²¹²

C. Regulating Cryptocurrencies as Securities

[57] As previously mentioned, the SEC is charged with enforcing the Securities Act of 1933 and the Securities Exchange Act of 1934, which

²⁰⁷ See CFTC v. McDonnell, No. 18-CV-361, 2018 U.S. Dist. LEXIS 146576 (E.D.N.Y. Aug. 23, 2018).

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ Press Release, Dennis M. Kelleher, CEO of Better Markets, FTX Was Registered With and Licensed by the CFTC, Which Failed to Properly Regulate or Supervise It and Its Innumerable Former CFTC Officials (Nov. 14, 2022), <https://bettermarkets.org/newsroom/ftx-was-registered-with-and-licensed-by-the-cftc-which-failed-to-properly-regulate-or-supervise-it-and-its-innumerable-former-cftc-officials/> [<https://perma.cc/RA27-QBGG>].

²¹¹ *Fast Answers: CFTC*, supra note 187.

²¹² Isaac et al., supra note 155.

together comprise the nation's securities laws.²¹³ The Securities Act of 1933 defines a "security" as "any note, stock, treasury stock, security future, security-based swap, bond . . . [or] *investment contract*" (emphasis added).²¹⁴ To determine whether an investment contract exists, courts apply a four-prong inquiry called the *Howey* test.²¹⁵

[58] In its 1946 decision in *SEC v. W.J. Howey Co.*, the U.S. Supreme Court held that an investment contract exists when there is: (1) an investment of money, (2) in a common enterprise, (3) with the expectation of profit, and (4) the profit is derived from the efforts of others.²¹⁶ If these four factors are present in an agreement, the agreement constitutes an investment contract and is subject to the SEC's rules and regulations.²¹⁷ To consider how courts interpret the *Howey* test, the 2014 case *SEC v. Trendon T. Shavers and Bitcoin Savings and Trust* is illustrative.²¹⁸

1. SEC v. Trendon T. Shavers and Bitcoin Savings and Trust

[59] Trendon T. Shavers solicited investments in his company, Bitcoin Savings and Trust, promising returns of up to 1% per day or 7% weekly and touting his own skills at trading in Bitcoin.²¹⁹ Investors provided Shavers

²¹³ Kenton, *supra* note 163.

²¹⁴ 15 U.S.C. § 77b(a)(1); *SEC v. Shavers*, No. 4:13-CV-416, 2014 U.S. Dist. LEXIS 130781 (E.D. Tex. Sept. 18, 2014).

²¹⁵ *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946).

²¹⁶ *Id.* at 298.

²¹⁷ *Id.*

²¹⁸ *SEC v. Shavers*, No. 4:13-CV-416, 2014 U.S. Dist. LEXIS 194382, at *1 (E.D. Tex. Aug. 26, 2014).

²¹⁹ *Id.* at *1–2.

with a username, an email address, their investments in Bitcoin, and a Bitcoin wallet address to receive investment withdraws.²²⁰ With his newly obtained Bitcoin, Shavers built his own Bitcoin mining operation and left a small reserve fund for investors withdrawing their funds.²²¹ Soon afterwards, Shavers reduced his promised rate of return from 7% to 3.9% and eventually shut down his operation when too many investors withdrew their funds at once.²²² The SEC determined that Bitcoin Savings and Trust was a Ponzi scheme.²²³ Of the approximately 732,100 Bitcoins investors provided, around 180,819 Bitcoins went towards Shavers' personal expenses.²²⁴

[60] In response to these allegations, Shavers argued federal securities laws did not apply to cryptocurrencies and, accordingly, that the court lacked jurisdiction.²²⁵ The court examined Shavers' conduct under the *Howey* test and held that the investments in his company constituted investment contracts because: (1) Bitcoin is a currency or form of money; (2) there was a common enterprise because the investors were dependent on Shavers' expertise in Bitcoin markets; (3) investors expected to profit because Shavers promised a substantial return on their investments; and (4) the expected profits were to be derived from Shavers' efforts.²²⁶ Thus, the court held an investment contract existed as a matter of law between Bitcoin Savings and Trust and its investors, and Bitcoin Savings and Trust fell

²²⁰ *Id.*

²²¹ *Id.* at *3.

²²² *Id.* at *5

²²³ *Shavers*, 2014 U.S. Dist. LEXIS 194382, at *2.

²²⁴ *Id.* at *9–10.

²²⁵ *Id.* at *1.

²²⁶ *Id.*, at *3.

within the SEC's jurisdiction.²²⁷ The court held that Shavers violated the Securities Exchange Act of 1934 because:

Section 10(b) of the Exchange Act . . . and Rule 10b-5 . . . make it unlawful for any person, in connection with the purchase or sale of a security, directly or indirectly, to (a) "employ any device, scheme, or artifice to defraud"; (b) "make an untrue statement of a material fact" or a material omission; or (c) "engage in any act, practice, or course of business which operates . . . as a fraud or deceit upon any person.

[61] Further, the court held that Shavers knowingly and intentionally operated a Ponzi scheme and made misrepresentations to investors.²²⁸

[62] The set of facts surrounding Bitcoin Savings and Trust's fraudulent operations provided the SEC with a perfect opportunity to exert its jurisdiction over cryptocurrency activities. Shavers accepted Bitcoin as investments in his fraudulent company, forming an investment contract. Shavers was not operating an unregistered exchange dealing in "goods" (unlike the defendant in *Coinflip*),²²⁹ nor was he offering subscription services for cryptocurrency trading advice (unlike the defendant in *Coin Drop Markets*).²³⁰ According to the SEC, the investment contracts in Bitcoin Savings and Trust were formed between the investors and the

²²⁷ *Id.* at *22.

²²⁸ *Shavers*, 2014 U.S. Dist. LEXIS 194382, at *14–15.

²²⁹ *Id.* at *3; *CFTC v. McDonnell*, 287 F. Supp. 3d 213, 224, 228 (E.D.N.Y. Mar. 6, 2018).

²³⁰ *Shavers*, 2014 U.S. Dist. LEXIS 194382, at *1; *see also McDonnell*, 287 F. Supp. 3d at 232.

company itself, but the investments were paid for in Bitcoin.²³¹ As such, rather than address the question of whether Bitcoin itself was a security, the court in *SEC v. Shavers* held more narrowly that the SEC could regulate investment contracts dealing in Bitcoin.²³² In fact, the SEC has since provided guidance that Bitcoin and Ether (the native token on the Ethereum blockchain) do not constitute securities under the *Howey* test, which is still being debated today.²³³

2. Initial Coin Offerings and the Howey Test

[63] In June 2018, the Director of the SEC’s Division of Corporation Finance, William Hinman, spoke at a summit about cryptocurrency regulation.²³⁴ Hinman told the crowd that Bitcoin and Ether fail the *Howey* test because they both “[lack] a central third party whose efforts are a key determining factor in the enterprise. The network[s] on which Bitcoin [and Ether] function [are] operational and appear[] to have been decentralized for some time, perhaps from inception.”²³⁵ In an interview with CNBC in July 2022, current SEC chair Gary Gensler reaffirmed the SEC’s position that Bitcoin is a commodity, yet he declined to extend that classification to Ether.²³⁶ Commentators (and possibly Gensler himself) believe Ether may

²³¹ *Shavers*, 2014 U.S. Dist. LEXIS 194382, at *2–3.

²³² *Id.* at *22.

²³³ William Hinman, Dir. of Div. of Corp. Fin., Sec. Exch. Comm’n, Remarks at the Yahoo Finance All Markets Summit: Crypto: Digital Asset Transactions: When Howey Met Gary (Plastic), 3–4 (June 14, 2018), <https://www.sec.gov/news/speech/speech-hinman-061418> [<https://perma.cc/6H5U-HVJK>].

²³⁴ *See id.*

²³⁵ *Id.*

²³⁶ André Beganski, *SEC Chair Gensler Again Says Bitcoin Is Not a Security. What About Ethereum?*, DECRYPT (June 27, 2022), <https://decrypt.co/103926/sec-chair-gensler-bitcoin-not-security-what-about-ethereum> [<https://perma.cc/M8TJ-QWCA>].

be considered a security because it was first offered to customers in an Initial Coin Offering (ICO).²³⁷ An ICO is when companies offer their newly created cryptocurrencies to the public for the first time.²³⁸ An ICO in the crypto industry is analogous to an initial public offering in the traditional finance industry.²³⁹

[64] As previously noted, the SEC initially took the position that Bitcoin and Ether failed the *Howey* test because both cryptos operate on blockchains that are sufficiently decentralized and thus lack a common enterprise (i.e., *Howey*'s second prong).²⁴⁰ However, when Ethereum first launched in 2014, the Ethereum Foundation sold over 60 million tokens in an ICO at roughly \$0.31 per coin.²⁴¹ The Ethereum Foundation planned on using the funds it raised from the ICO to continue developing the Ethereum blockchain, and the assets were not usable or transferable until the "genesis block" was released to the public.²⁴² Investors purchasing the tokens during the ICO expected a return on their purchases due to the Ethereum Foundation's continued development of the Ethereum blockchain.²⁴³ Consequently, when a common enterprise like the Ethereum Foundation

²³⁷ *See id.*

²³⁸ Jake Frankenfield, *Initial Coin Offering (ICO): Coin Launch Defined, with Examples*, INVESTOPEDIA, <https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp> [<https://perma.cc/G77Q-FPV4>] (last updated Aug. 18, 2022).

²³⁹ *See id.*

²⁴⁰ *See* Hinman, *supra* note 233.

²⁴¹ *Ethereum (ETH) ICO*, COINCODEX, <https://coincodex.com/ico/ethereum/> [<https://perma.cc/65C7-8KHD>] (last visited Oct. 6, 2023).

²⁴² Vitalik Buterin, *Launching the Ether Sale*, ETHEREUM FOUND. BLOG (July 22, 2014), <https://blog.ethereum.org/2014/07/22/launching-the-ether-sale> [<https://perma.cc/8XBM-GZ9J>].

²⁴³ *See id.*; *see also* *Ethereum (ETH) ICO* *supra* note 241.

sells its cryptocurrencies in an ICO, the cryptocurrencies may represent an investment contract between the purchaser and the issuer.²⁴⁴ In contrast, Bitcoin lacks the centralized common enterprise Ethereum has: There is no Bitcoin foundation continuing to develop the blockchain, and the first Bitcoin was mined by a node on the peer-to-peer, decentralized network rather than sold directly to customers.²⁴⁵ Accordingly, because Bitcoin lacks a common enterprise, it fails the *Howey* definition of “investment contract.”

[65] Other cryptocurrencies (e.g., XRP and ATB Coin) have also launched through ICOs.²⁴⁶ In *Balestra v. ATBCOIN LLC*, investors in ATB Coin’s ICO sued the company in the United States District Court of the Southern District of New York for selling unregistered securities.²⁴⁷ ATB Coin filed a motion to dismiss the suit arguing the court lacked jurisdiction on account of its cryptocurrency failing to constitute a security, and the motion was denied.²⁴⁸ The plaintiffs in the case settled with ATB Coin for

²⁴⁴ See generally Hinman, *supra* note 233 (discussing the *Howey* test and the broad nature of investment contracts).

²⁴⁵ See Hinman, *supra* note 233; David Floyd, *How Bitcoin Works*, INVESTOPEDIA, <https://www.investopedia.com/news/how-bitcoin-works/> [<https://perma.cc/85DZ-CQ9C>] (last updated Aug. 20, 2023); see e.g., Alice Ivey, *Primary vs. secondary markets: Key differences*, COINTELEGRAPH (Mar. 15, 2023), <https://cointelegraph.com/news/primary-vs-secondary-markets-key-differences> [<https://perma.cc/Q644-HVQA>]; Benedict George, *The Genesis Block: The First Bitcoin Block*, NASDAQ (Jan. 3, 2023, 11:03 AM), <https://nasdaq.com/articles/the-genesis-block:-the-first-bitcoin-block> [<https://perma.cc/T9XC-2WMC>].

²⁴⁶ See SEC Press Release, *supra* note 171; Press Release, Cointelegraph, ATB Coin Cryptocurrency ICO Now Underway Across Globe, (June 15, 2017), <https://cointelegraph.com/press-releases/atb-coin-cryptocurrency-ico-now-underway-across-globe> [<https://perma.cc/7S59-665X>].

²⁴⁷ *Balestra v. ATBCOIN, LLC*, 380 F. Supp. 3d 340, 346–47 (S.D.N.Y. Mar. 31, 2019).

²⁴⁸ *Id.* at 346.

\$250,000,²⁴⁹ but the fact the court denied ATB Coin’s motion to dismiss indicated it was plausible cryptocurrencies sold through ICOs constitute securities.²⁵⁰ On its part, the SEC asserted that cryptocurrencies, including those offered through an ICO, constitute securities after it charged Ripple Labs Inc. for selling its cryptocurrency, XRP.²⁵¹

3. SEC v. Ripple Labs, Inc.

[66] In its filing against Ripple Labs, the SEC alleged that Ripple Labs engaged in three types of unregistered XRP offers and sales: (1) “Institutional Sales” to sophisticated buyers (such as hedge funds) under written contracts amounting to \$728 million; (2) “Programmatic Sales,” which were \$757 million in public sales to public buyers on digital asset exchanges; and (3) “Other Distributions,” which reference \$609 million worth of XRP distributions to employees as compensation and to third parties to develop new applications for XRP.²⁵² Further, the SEC alleged Ripple Labs’ former CEO, Christian Larsen, and current CEO, Bradley Garlinghouse, engaged in the unregistered sale of securities in their individual capacities on digital asset exchanges.²⁵³ And lastly, the SEC also alleged that Larsen and Garlinghouse aided and abetted Ripple’s Section 5 violations.²⁵⁴

²⁴⁹ Samuel Haig, *Lead Plaintiff Settles Class Action Targeting \$20 Min ICO for \$250,000*, COINTELEGRAPH (Apr. 12, 2020), <https://cointelegraph.com/news/lead-plaintiff-settles-class-action-targeting-20-mln-ico-for-250-000> [https://perma.cc/MZW3-TETX].

²⁵⁰ *Balestra v. ATBCOIN, LLC*, 380 F. Supp. 3d 340, 351 (S.D.N.Y. Mar. 31, 2019).

²⁵¹ SEC Press Release, *supra* note 171.

²⁵² *SEC v. Ripple Labs, Inc.*, No. 1:20-CV-10832, 2023 U.S. Dist. LEXIS 120486 (S.D.N.Y. July 13, 2023).

²⁵³ *Id.*

²⁵⁴ *Id.*

[67] Ripple Labs responded to the allegations by making a nuanced argument, asserting that XRP failed to constitute a security under the *Howey* test because it lacked the “essential ingredients.”²⁵⁵ According to Ripple Labs, every investment contract case prior to 1933 involved an actual contract, imposed post-sale obligations on the promoter, and gave the investor a right to receive profits (the “essential ingredients”).²⁵⁶ Ripple Labs argued these characteristics do not apply to XRP and no Supreme Court or Second Circuit Court of Appeals case since *Howey* has held that an investment contract exists without these three essential characteristics.²⁵⁷ Ripple Labs—and Larsen and Garlinghouse—also raised a fair notice defense under the Due Process Clause of the Fourteenth and Fifth Amendments to the U.S. Constitution, which requires the language of criminal statutes be sufficiently clear to objectively give fair notice of what is prohibited.²⁵⁸ Nevertheless, the main issue was whether Ripple Labs’ XRP transactions constituted investment contracts under the *Howey* test.

[68] On July 13, 2023, the U.S. District Court for the Southern District of New York issued its much anticipated order in response to the cross-motions for summary judgment, granting and denying both motions in part.²⁵⁹ The court rejected Ripple Labs’ “essential ingredients” analysis, and instead applied the three-prong version of the *Howey* test to each type of transaction at issue.²⁶⁰

²⁵⁵ Def.’s Reply Supp. Mot. Summ. J. at 13.

²⁵⁶ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *20.

²⁵⁷ Def.’s Reply Supp. Mot. Summ. J. 6–7.

²⁵⁸ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *43.

²⁵⁹ *Id.*

²⁶⁰ *Id.* at *11–*19.

[69] Under the three-prong version of the *Howey* test, an investment contract is “a contract, transaction[,], or scheme whereby a person [(1)] invests his money [(2)] in a common enterprise and (3) is led to expect profits solely from the efforts of the promoter or a third party.”²⁶¹ The first prong merely requires a payment by someone to “provide capital” or “put up their money.”²⁶² The second prong requires the invested capital to be pooled together, such that the investors and enterprise share risk, and that the “fortunes of each investor are tied to the fortunes of other investors, as well as to the success of the overall enterprise.”²⁶³ Under the third prong, the court analyzes communications made to investors to determine whether they would reasonably expect to profit from the enterprise’s efforts.²⁶⁴

[70] After considering the “economic reality and totality of circumstances surrounding the offers and sales of the underlying asset[,]”²⁶⁵ the court concluded the Institutional Sales constituted investment contracts, while the Programmatic Sales and Other Transactions did not.²⁶⁶

[71] The court first concluded that Ripple Labs’ offers and sales of XRP to Institutional Buyers constituted investment contracts.²⁶⁷ As to the first prong, the court held that the institutional buyers’ payments in fiat and other currencies in exchange for XRP constituted an investment, regardless of

²⁶¹ *Id.* at *18.

²⁶² *Id.*

²⁶³ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *26–*27.

²⁶⁴ *Id.* at *19.

²⁶⁵ *Id.* at *22.

²⁶⁶ *Id.* at *35, *39, *41.

²⁶⁷ *Id.* at *35.

whether the Institutional Buyers had an intent to make an investment.²⁶⁸ Under the second prong of the *Howey* test, a common enterprise existed due to Ripple Labs' conduct after the sales: Ripple Labs pooled its investors' assets together by failing to segregate and separately manage investor funds, and Ripple Labs' success was tied to the Institutional Buyers' profits.²⁶⁹ And third, the court held that the Institutional Buyers had a reasonable expectation of profits to be derived from Ripple's efforts based off Ripple's communications, which involved a marketing campaign for Institutional Buyers and quarterly market reports touting XRP's potential value.²⁷⁰ By satisfying all three prongs of the *Howey* test, "Ripple's Institutional Sales of XRP constituted the unregistered offer and sale of investment contracts in violation of Section 5 of the Securities Act."²⁷¹

[72] The court next examined Ripple's "Programmatic Sales" of XRP and held that these sales failed to constitute investment contracts under the third prong of the *Howey* test.²⁷² The Programmatic Sales were blind bid/ask transactions on digital asset exchanges. In conducting its Programmatic Sales, "Ripple did not make any promises or offers because Ripple did not know who was buying the XRP, and the purchasers did not know who was selling it."²⁷³ According to the court, even if these investors expected to profit off their investments, such buyers "could not have known if their payments of money went to Ripple, or any other seller of XRP."²⁷⁴ In this

²⁶⁸ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *26.

²⁶⁹ *Id.* at *27–*28.

²⁷⁰ *Id.* at *30–*31.

²⁷¹ *Id.* at *35.

²⁷² *Id.*

²⁷³ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *37.

²⁷⁴ *Id.* at *35–*36.

blind, bid/ask transaction context, “the economic reality is that a Programmatic Buyer stood in the same shoes as a secondary market purchaser who did not know to whom or what it was paying its money.”²⁷⁵ Thus, the buyers could not reasonably expect for Ripple to use any capital it received to improve the XRP network—thereby increasing the XRP price. And even if some Programmatic Buyers reasonably expected to derive profit from Ripple’s efforts, “[t]he inquiry is an objective one focusing on the promises and offers made to investors; it is not a search for the precise motivation of each individual participant.”²⁷⁶ In short, the Programmatic Sales failed to constitute investment contracts under the third prong of the *Howey* test.

[73] The \$609 million worth of “Other Transactions,” which was Ripple Labs’ book value for the XRP it paid to employees and third parties, also failed to constitute investment contracts.²⁷⁷ These payments failed under the first prong of the *Howey* test, which requires a payment of money.²⁷⁸ The SEC argued these payments constituted an indirect public offering because the parties receiving XRP in these Other Transactions were free to transfer their XRP to another holder.²⁷⁹ Nevertheless, the court rejected this argument because “the payment of money for these XRP sales never traced back to Ripple, and the Court cannot make such a finding.”²⁸⁰ As a result,

²⁷⁵ *Id.* at *36.

²⁷⁶ *Id.* at *37.

²⁷⁷ *Id.* at *39–*40.

²⁷⁸ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *40.

²⁷⁹ *Id.* at *41.

²⁸⁰ *Id.*

“Ripple’s Other Distributions did not constitute the offer and sale of investment contracts.”²⁸¹

[74] Lastly, the court applied the *Howey* test to the XRP sales made by Ripple Labs CEOs, Larsen and Garlinghouse, in their individual capacities.²⁸² From 2013 to 2020, Larsen sold \$450 million worth of XRP he retained after founding the XRP blockchain. Garlinghouse sold \$150 million worth of XRP from 2017 to 2020, some of which was earned as compensation.²⁸³ The court concluded that these sales failed under the third *Howey* prong, like the Programmatic Sales.²⁸⁴ These sales were conducted on various digital asset exchanges in blind bid/ask transactions—Larsen and Garlinghouse did not know to whom they sold the XRP, and the buyers did not know the identity of the seller.²⁸⁵ “Thus, as a matter of law, the record cannot establish the third *Howey* prong as to these transactions.”²⁸⁶

[75] In sum, the court concluded Ripple’s sales to Institutional Buyers constituted investment contracts, while neither the Other Transactions nor any of the defendants’ sales on digital asset exchanges constituted investment contracts.²⁸⁷

[76] The court rejected the defendants’ fair notice defense as to the Institutional Sales and denied both parties’ motions for summary judgment

²⁸¹ *Id.*

²⁸² *Id.* at *41–*42.

²⁸³ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *10.

²⁸⁴ *Id.*

²⁸⁵ *Id.* at *42.

²⁸⁶ *Id.*

²⁸⁷ *Id.* at *35, *39, *41.

as to the aiding and abetting charges against Larsen and Garlinghouse.²⁸⁸ On October 19, 2023, the SEC stipulated and agreed to dismiss the aiding and abetting claims against Garlinghouse and Larsen, which Ripple's Chief Legal Officer described as a "surrender by the SEC."²⁸⁹ The SEC will likely appeal, but the *Ripple Labs* decision was viewed as a huge win in the crypto industry.

[77] The *Ripple Labs* decision seemed to give a clear answer that cryptocurrencies sold through ICOs constitute investment contracts, whereas cryptocurrencies sold through digital asset exchanges do not. This clarity was short-lived, however. The SEC filed for an interlocutory appeal, and in denying the SEC's motion, the *Ripple Labs* court asserted that the SEC misconstrued her holding to mean "offers and sales on crypto asset trading platforms cannot create a reasonable expectation of profits based on the efforts of others[.]"²⁹⁰ Judge Torres made clear that her rulings applied only in the *Ripple* case because they were based on "the totality of the circumstances . . . , including an examination of the facts, circumstances, and economic realities of the transactions[.]"²⁹¹

[78] Thus, the *Ripple Labs* decision can be properly read as requiring judges to examine the facts, circumstances, and economic realities of the transactions to determine whether a cryptocurrency is a security, a commodity, or neither.²⁹² This judge-made line drawing fails to provide

²⁸⁸ *Ripple Labs*, 2023 U.S. Dist. LEXIS 120486, at *44, *46.

²⁸⁹ Katherine Ross, *No trial: SEC moves to dismiss charges against Ripple's Garlinghouse, Larsen*, BLOCKWORKS (Oct. 19, 2023 at 5:32 PM), <https://blockworks.co/news/sec-drops-dismisses-garlinghouse-case> [<https://perma.cc/Y3VT-H96V>].

²⁹⁰ SEC v. Ripple Labs, Inc., No. 1:20-CV-10832, 2023 U.S. Dist. LEXIS 178300 at *12–*13 (S.D.N.Y. Oct. 3, 2023).

²⁹¹ *Id.* at *13.

²⁹² *Id.*

clear guidance to those in the cryptocurrency industry, especially when judges in the same district as the *Ripple Labs* court have declined to follow the decision.²⁹³ All the while, the SEC and CFTC have continued to assert their jurisdiction over cryptocurrency exchanges, including against Coinbase and Binance.²⁹⁴ Congressional action is needed.

4. Current Congressional Efforts

[79] The 118th Congress have introduced a number of bills on cryptocurrency, but there are two main pieces of legislation this paper will cover: the Financial Innovation and Technology for the 21st Century Act,²⁹⁵ and the Lummis-Gillibrand Responsible Financial Innovation Act.²⁹⁶

a. The Financial Innovation and Technology for the 21st Century Act

[80] The Financial Innovation and Technology for the 21st Century Act (the “FIT Act”) was introduced on July 20, 2023 by Representatives Glenn

²⁹³ Toby Galloway & Jamie Lacy, *Federal Court in Terraform Labs Rejects Ripple Decision*, JDSUPRA (Aug. 1, 2023), <https://www.jdsupra.com/legalnews/federal-court-in-terraform-labs-rejects-9576629/> [<https://perma.cc/U6XS-YRY6>].

²⁹⁴ Press Release, SEC, SEC Charges Coinbase for Operating as an Unregistered Securities Exchange, Broker, and Clearing Agency (June 6, 2023), <https://www.sec.gov/news/press-release/2023-102> [<https://perma.cc/A2K6-66D8>]; Press Release, SEC, SEC Files 13 Charges Against Binance Entities and Founder Changpeng Zhao (June 5, 2023), <https://www.sec.gov/news/press-release/2023-101> [<https://perma.cc/JR34-JBEF>].

²⁹⁵ See Financial Innovation and Technology of the 21st Century Act, H.R. 4763, 118th Cong. (2023).

²⁹⁶ See Lummis-Gillibrand Responsible Financial Innovation Act, S. 2281, 118th Cong. (2023).

Thompson, French Hill, and Dusty Johnson.²⁹⁷ The bill provides a definition for “digital commodity”²⁹⁸ and establishes certain qualitative and quantitative thresholds for a blockchain network to determine whether a digital asset will be regulated by the SEC or the CFTC.²⁹⁹ The FIT Act focuses on two key principles, functionality and decentralization, “[t]o clarify how the Supreme Court’s *Howey* Test applies to digital assets.”³⁰⁰

[81] The FIT Act provides the CFTC with primary jurisdiction over digital assets and digital asset markets.³⁰¹ When a blockchain network is both “functional” and certified as “decentralized,”³⁰² as those terms are defined in the Act, the asset on the blockchain network constitutes a “digital commodity.”³⁰³ Digital commodity issuers and intermediaries must register with the CFTC.³⁰⁴ The SEC has jurisdiction over “Restricted Digital Assets,” which are digital assets on blockchain networks lacking functionality or certification of decentralization or are digital assets in the

²⁹⁷ Press Release, French Hill, Representative, Reps. Hill, Thompson, Johnson Introduce Financial Innovation and Technology for the 21st Century Act (July 20, 2023), <https://hill.house.gov/news/documentsingle.aspx?DocumentID=9157> [<https://perma.cc/E958-QNY2>].

²⁹⁸ See H.R. 4763. at § 101.

²⁹⁹ *Id.*

³⁰⁰ Press Release, H. Fin. Servs. Comm., McHenry Delivers Opening Remarks at Historic Markup of Comprehensive Digital Asset Market Structure Legislation (July 26, 2023), <https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=408928#:~:text=%E2%80%9CTo%20clarify%20how%20the%20Supreme,not%20developed%20in%20a%20vacuum> [<https://perma.cc/VX6B-3DZ4>].

³⁰¹ See H.R. 4763.

³⁰² *Id.* at § 101.

³⁰³ *Id.*

³⁰⁴ *Id.* at § 404.

hands of its issuer.³⁰⁵ Thus, the determining factors in applying the FIT Act's regulatory scheme to digital assets are functionality and decentralization. As explained below, functionality examines whether the blockchain operates, while decentralization focuses on digital asset ownership and control over the blockchain, among other things.³⁰⁶

[82] A "functional network" is a blockchain network that allows participants to either (i) use its network to transmit and store value on the blockchain, (ii) participate in services or applications on the network, or (iii) participate in the decentralized governance of the blockchain system.³⁰⁷ Thus, for commodity treatment, a blockchain network must have some functionality in terms of currency, operate services or applications, or provide voting rights.³⁰⁸ After constituting a functional network, the digital asset must also be on a "decentralized network,"³⁰⁹ as defined below.

[83] Under the FIT Act, a "decentralized network"³¹⁰ is a blockchain network where:

- (i) during the 12-months prior to issuance, no person had the unilateral authority to control or materially alter the functionality or operation of the blockchain system;
- (ii) no digital asset issuer or affiliated person (relates to ownership) beneficially owned, in the aggregate,

³⁰⁵ *Id.* at §§ 101, 301.

³⁰⁶ *See* H.R. 4763, at § 101.

³⁰⁷ *Id.*

³⁰⁸ *Id.*

³⁰⁹ *Id.*

³¹⁰ *Id.* at § 101.

- 20% or more of the total amount of units of such digital asset or had the ability to do so;
- (iii) during the 3-month period prior to issuance, the digital asset issuer or any related person has not altered the blockchain's source code, unless to address vulnerabilities or adopted through consensus (consensus is when token holders approve a software update through a decentralized governance system);
 - (iv) during the 3-month period prior to issuance, neither any digital asset issuer nor any affiliated person has marketed to the public the digital assets as an investment (focusing on communications made to the public by the enterprise or any affiliated persons); and
 - (v) during the previous 12-month period, all issuances of units of such digital asset through the programmatic functioning of the blockchain system were end user distributions (end user distributions are issuances involving no money for consideration and are incentive-based; air drops and staking and mining rewards would presumably be end user distributions).³¹¹

[84] In toto: the “decentralized network” definition: (i) examines whether someone has unilateral control over the blockchain network’s operability, (ii) establishes ownership thresholds for issuers and affiliated people, (iii) disallows the digital asset issuer or its employees changing the network’s code within three months prior to issuance (with exceptions), (iv) disallows the issuer or any affiliated person to market the asset as an investment for three months before issuance, and (v) permits programmatic issuance through end user distributions, which are presumably air drops and staking

³¹¹ See H.R. 4763, at § 101.

and mining rewards.³¹² Once a blockchain network is decentralized, a person can file the certification of decentralization.³¹³

[85] The FIT Act permits digital asset issuers to file a certification of decentralization with either the CFTC or the SEC.³¹⁴ But the Act makes it unlawful to act as a digital commodity broker or dealer without registering with the CFTC, and imposes registration requirements similar to existing securities laws if the asset is a restricted digital asset.³¹⁵ In line with the definition of “decentralized network,” the certification of decentralization details the blockchain network’s activities, development history, and ownership.³¹⁶ After a certification of decentralization is filed, the SEC has thirty days to rebut a certification if they determine the blockchain system is not a decentralized network.³¹⁷ The CFTC has twenty business days to do so (or two days if an intermediary is filing for an asset on a network with certification of decentralization).³¹⁸ If these deadlines are passed and neither commission raises an objection, then the filing becomes effective with the CFTC,³¹⁹ and the SEC considers the network a decentralized network.³²⁰

³¹² *Id.*

³¹³ *Id.* at §§ 204, 403–04.

³¹⁴ *Id.* at §§ 204, 403.

³¹⁵ *Id.* at §§ 303, 305, 403–04.

³¹⁶ *See* H.R. 4763, at §§ 204, 403.

³¹⁷ *Id.* at § 204.

³¹⁸ *Id.* at § 403.

³¹⁹ *Id.*

³²⁰ *Id.* at § 204.

[86] The FIT Act grants the SEC and CFTC broad discretion in determining how frequently—and to what extent—they will require reporting from digital asset brokers and dealers, and from digital commodity brokers and dealers.³²¹ Digital asset brokers and dealers, as well as digital commodity brokers and dealers, are required to “meet such minimum capital requirements as the Commission may prescribe to ensure” the broker or dealer is able to, at all times, fulfill its customers’ obligations.³²² The reporting requirements’ frequency and intensity are left up to the commissions, but the commissions can require any information they consider necessary, and the digital asset issuers and intermediaries must make continued reporting “as the Commission may require.”³²³ Further, the FIT Act requires any intermediary dealing in customer’s restricted digital assets or digital commodities to hold such assets with a qualified custodian, such as a bank.³²⁴

[87] The FIT Act’s principles in determining whether the SEC and/or the CFTC should have jurisdiction over a digital asset utilizes similar rationale to the court’s holding in *Ripple Labs*. In theory, if a blockchain network is functional, people purchasing digital assets on the blockchain could purchase the asset to participate in the blockchain system, rather than with an expectation to earn a profit. And even if someone reasonably expected to profit from their purchase, if the blockchain is decentralized, the speculative investor cannot reasonably expect to derive their profit from the efforts of an ongoing common enterprise.³²⁵ Further, end user distributions

³²¹ See H.R. 4763, at §§ 306, 401.

³²² *Id.* at §§ 306, 406.

³²³ *Id.*

³²⁴ *Id.* at §§ 304, 306, 406.

³²⁵ *Id.* at § 101.

are transactions without money, so these issuances would fail under the first prong of the *Howey* test.³²⁶

[88] Although the rationale is similar, applying the FIT Act to the facts in *Ripple Labs* would produce a much different result. First, the XRP sold in the Institutional Sales would constitute restricted digital assets under FIT because the Ripple Labs founders retained 20 billion out of the 100 billion (20%) XRP supply,³²⁷ so the network lacked decentralization under the FIT Act.³²⁸ The XRP sold through Programmatic Sales—the transactions conducted on crypto exchanges—would constitute restricted digital assets due to the lack of decentralization, but FIT provides a path to obtaining commodity treatment: functionality, decentralization, and certification of decentralization.³²⁹ The XRP paid to employees in the Other Distributions would constitute restricted digital assets because the employees and third parties receiving the XRP constitute related persons under the FIT Act.³³⁰ But, under the FIT Act, the XRP would constitute a restricted asset only for twelve months after receiving the asset, or whenever the XRP Ledger achieves functionality and certification of decentralization.³³¹ And lastly, only some of the XRP Garlinghouse and Larsen sold would constitute restricted digital assets due to lack of decentralization: after retaining 20% of the XRP supply, the aggregate ownership between affiliated persons presumably fell below 20% after the first wave of sales. Under the FIT Act, Ripple would need to register with the SEC to dispossess any XRP through

³²⁶ SEC v. Ripple Labs, Inc., No. 1:20-CV-10832, 2023 U.S. Dist. LEXIS 120486, at *41 (S.D.N.Y. July 13, 2023).

³²⁷ *Id.* at *6–*7.

³²⁸ See H.R. 4763, at § 101.

³²⁹ *Id.*

³³⁰ *Id.*

³³¹ *Id.*

sales or as compensation, or achieve functionality and certification of decentralization and register with the CFTC.³³²

[89] The FIT Act also contemplates situations when a single intermediary deals in restricted digital assets and digital commodities. Section 105 of the FIT Act directs the SEC and CFTC to issue joint rulemakings to prevent duplicative or unduly burdensome reporting requirements.³³³ Further, Section 503 establishes a CFTC-SEC Joint Advisory Committee on Digital Assets, which would be responsible for issuing rules and regulations to further the regulatory harmonization between the two Commissions.³³⁴

[90] The FIT Act is effective in giving objective measures to determine whether a digital asset is regulated by the CFTC or the SEC, rather than applying the *Howey* test to each transaction. It is a comprehensive bill and, on top of providing a clear regulatory framework, it imposes registration and reporting requirements on crypto intermediaries, as well as capital requirements.³³⁵ With the reporting and capital requirements, the FIT Act grants the CFTC and SEC with discretion in what to impose.³³⁶ Further, the FIT Act provides several opportunities for the SEC and CFTC to work

³³² *Id.*

³³³ H.R. 4763, at § 105.

³³⁴ *See id.* at § 503.

³³⁵ *See e.g., id.*

³³⁶ *Id.*

together to ensure the regulatory system is not unduly burdensome. Despite its positive traits, the bill is not without criticisms.³³⁷

[91] In the Financial Services Committee’s markup meeting for the FIT Act, Representative Maxine Waters claimed the bill creates more confusion than provides clarity and offers fewer protections to consumers and investors than the existing securities laws.³³⁸ Representative Waters described the bill as “the wish-list of big crypto” and “undeserving of any of our support.”³³⁹ Nevertheless, on July 26, 2023, the Financial Services Committee passed the FIT Act out of Committee, which is the first time a crypto-focused regulatory Act has been voted out of any committee in the House or Senate.³⁴⁰ Next, the FIT Act will go to the House Floor for debate.

[92] In the Senate wing of the Capitol Building, Senators Lummis and Gillibrand have introduced the Responsible Financial Innovation Act (RFIA).³⁴¹

³³⁷ Victor Alexander, *FIT Crypto Bill Criticized by Democrats*, INSIDE BITCOINS (July 28, 2023), <https://insidebitcoins.com/news/fit-crypto-bill-criticized> [<https://perma.cc/X6KM-N6SB>]; Victor Alexander, *House Bill May Endanger Crypto Prospects and Strengthen the SEC*, INSIDE BITCOINS (July 23, 2023), <https://insidebitcoins.com/news/house-bill-may-endanger-crypto-prospects-and-strengthen-the-sec> [<https://perma.cc/C94H-G4CX>].

³³⁸ Press Release, H. Fin. Servs. Comm., Ranking Member Waters Delivers Opening Statement at Full Committee Markup (July 26, 2023), <https://democrats-financialservices.house.gov/news/documentsingle.aspx?DocumentID=410718> [<https://perma.cc/A6ML-ZNU6>].

³³⁹ *Id.*

³⁴⁰ Kristin Smith, *The FIT Act Is the Most Comprehensive Crypto Regulation Ever Voted on by Congress*, COINDESK (Aug. 16, 2023, 7:00 AM), <https://www.coindesk.com/consensus-magazine/2023/08/16/the-fit-act-is-the-most-comprehensive-crypto-regulation-ever-voted-on-by-congress/> [<https://perma.cc/YXJ6-YB44>].

³⁴¹ Lummis-Gillibrand Responsible Financial Innovation Act, S. 2281, 118th Cong. (2023).

b. The Responsible Financial Innovation Act

[93] Last year, during the 117th Congressional session, Senators Lummis and Gillibrand introduced the RFIA.³⁴² The Senators reintroduced the RFIA this year with several changes to the previous version,³⁴³ but the main regulatory scheme between the SEC and the CFTC remains the same: The CFTC will have jurisdiction over “crypto assets” and “crypto asset exchanges,” while the SEC retains its jurisdiction over securities.³⁴⁴

[94] The RFIA grants the CFTC with primary jurisdiction over crypto assets, crypto asset exchanges, and crypto asset transactions.³⁴⁵ All crypto asset exchanges must register with the CFTC as such.³⁴⁶ The RFIA attempts to make a clear distinction between assets that are commodities or securities by examining the rights or powers conveyed to customers.³⁴⁷ Specifically, if a digital asset provides its holder with a debt or equity interest, liquidation rights, a right to a dividend payment, or other financial interest in a business

³⁴² Lummis-Gillibrand Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

³⁴³ Press Release, Kirsten Gillibrand, Senator, Lummis, Gillibrand Reintroduce Comprehensive Legislation To Create Regulatory Framework For Crypto Assets (July 12, 2023), <https://www.lummis.senate.gov/wp-content/uploads/Whats-New-in-Lummis-Gillibrand-2023-Final.pdf> [<https://perma.cc/59AN-FSNB>] [hereinafter Press Release, Gillibrand] (click on “here” after “For a look at what’s new in this version of the bill” at the bottom of the page).

³⁴⁴ S. 2281, at §§ 403–04.

³⁴⁵ *Id.* at § 501.

³⁴⁶ *Id.* at § 404.

³⁴⁷ *Id.*

entity, the asset would be subject to the SEC's jurisdiction.³⁴⁸ The RFIA considers situations when cryptocurrencies are "ancillary assets," which is when cryptocurrency is issued to a purchaser under an investment contract.³⁴⁹ When a cryptocurrency is provided to a purchaser under an investment contract as an ancillary asset, the ancillary asset itself is not necessarily a security.³⁵⁰ The CFTC would have jurisdiction over ancillary assets that fall within its definition of digital asset, but the Bill also imposes disclosure requirements on issuers of such ancillary assets and gives the SEC jurisdiction over the disclosure requirements.³⁵¹

[95] While it appears to be a relatively straightforward regulatory regime, the RFIA also "[c]odifies the existing *Howey* test, as interpreted by the Federal courts over the last eighty years."³⁵² The differing results from applying the *Howey* test to cryptocurrencies is one of the main reasons why clear regulation was so necessary.

[96] The RFIA falls short of providing the ideal regulatory clarity investors and developers seek because there remains ambiguity in determining whether an asset is a commodity, a security, or an ancillary asset. However, in situations involving both an investment contract and an

³⁴⁸ *Lummis-Gillibrand Responsible Financial Innovation Act: An Overview of New Provisions in the Reintroduced Bill*, GIBSON DUNN (Aug. 22, 2023), <https://www.gibsondunn.com/lummis-gillibrand-responsible-financial-innovation-act-an-overview-of-new-provisions-in-the-reintroduced-bill/> [https://perma.cc/G4LZ-JP4L].

³⁴⁹ Press Release, Gillibrand, *supra* note 343 (click on "here" after "For a section by section of the bill" at the bottom of the page).

³⁵⁰ S. 228, at § 501.

³⁵¹ *Id.*

³⁵² Press Release, Gillibrand, *supra* note 343 (click on "here" after "For a section by section of the bill" at the bottom of the page).

ancillary asset, the CFTC would have jurisdiction over the asset, while the SEC would have jurisdiction over the issuer's reporting requirements.³⁵³

[97] The previous version of the RFIA tasked the CFTC and SEC with studying, reporting, and developing a proposal for a new self-regulatory organization (SRO) between the two agencies to oversee cryptocurrency markets.³⁵⁴ According to Senator Gillibrand, an SRO between the two organizations “can play a complementary role, working with regulators to allow them to be more nimble and efficient, while maintaining strong supervision.”³⁵⁵ Although Senator Lummis's press release fails to address the lack of a SRO in the new RFIA,³⁵⁶ this new version creates an Advisory Committee on Financial Innovation, which will study and report to regulators any evolutions in the crypto asset market.³⁵⁷

[98] If the RFIA is passed, it would codify the existing issue with the United States' current regulatory scheme: attempting to apply the *Howey* test to assets without clear, objective measures to determine whether a cryptocurrency is a commodity, a security, or something entirely different. Nonetheless, even if the CFTC has original jurisdiction over all cryptocurrencies, it is unlikely the CFTC can effectively oversee the

³⁵³ S. 2281, at § 501.

³⁵⁴ See Press Release, Kirsten Gillibrand, Senator, Lummis, Gillibrand Introduce Landmark Legislation to Create Regulatory Framework for Digital Assets (June 7, 2022), <https://www.gillibrand.senate.gov/news/press/release/lummis-gillibrand-introduce-landmark-legislation-to-create-regulatory-framework-for-digital-assets/> [<https://perma.cc/PR3C-TFM6>].

³⁵⁵ *Id.*

³⁵⁶ *Id.*

³⁵⁷ S. 2281, at § 908.

cryptocurrency markets due to its lack of resources.³⁵⁸ “The CFTC was underfunded when I was there,” according to former CFTC Chair Timothy Massad, who claimed the CFTC “didn’t have the resources to do things that we really needed to do.”³⁵⁹ FTX was a registered exchange with the CFTC, for example, and the CFTC failed to proactively protect investors against FTX’s fraudulent activity.³⁶⁰

[99] The RFIA is not without merit, though, especially in the consumer protection realm. Both bills require crypto exchanges to have a Chief Compliance Officer and to institute risk management functions.³⁶¹ The RFIA goes a step further by requiring crypto intermediaries to maintain proof of reserves and undergo an annual verification.³⁶² Under the RFIA, auditors would go through an exchange’s total balance of customer assets and ensure the exchanges have an equal (or greater) amount of assets to cover all potential customer withdrawals.³⁶³ Requiring proof of reserves on

³⁵⁸ Fran Velasquez, *Former CFTC Chair: Here’s How SEC and CFTC Can Work Together to Regulate Crypto*, COINDESK, <https://www.coindesk.com/policy/2022/08/22/former-cftc-chair-heres-how-sec-and-cftc-can-work-together-to-regulate-crypto/> [https://perma.cc/MV54-L83E] (last updated May 11, 2023, 2:39 PM).

³⁵⁹ *Id.*

³⁶⁰ Dennis M. Kelleher, *Crypto, FTX, Sam Bankman-Fried, SEC, CFTC, Banking Regulators and the Revolving Door*, BETTER MARKETS, 6 (Mar. 8, 2023), https://bettermarkets.org/wp-content/uploads/2022/11/Better_Markets_FTX_FactSheet.pdf [https://perma.cc/JAK5-K4AN].

³⁶¹ See S. 2281, at § 404; Financial Innovation and Technology of the 21st Century Act, H.R. 4763, 118th Cong. (2023), at §§ 404, 406.

³⁶² S. 2281, at § 203.

³⁶³ *Id.* at § 404.

an annual basis is a secure and transparent way to ensure customer funds are safe, and arguably could have prevented the FTX scandal.³⁶⁴

[100] In sum, some cryptocurrencies fall under the broad definition of commodities, and the CFTC has exerted its jurisdiction over cryptocurrencies when there are futures contracts or fraud involved. The SEC believes most cryptocurrencies (besides Bitcoin) constitute securities. There are two pieces of legislation introduced in Congress that would grant the CFTC with main jurisdiction over cryptocurrencies but retain the SEC's jurisdiction over digital assets in certain circumstances.³⁶⁵ The RFIA utilizes the existing *Howey* test to determine whether a cryptocurrency constitutes a security, while the FIT Act provides quantitative and qualitative measures to determine whether a digital asset constitutes a digital commodity or a restricted digital asset.

[101] While the next section discusses how cryptocurrencies are taxed, Section V will offer suggestions on how the U.S. should regulate the cryptocurrency industry in the future.

IV. HOW THE UNITED STATES TAXES CRYPTOCURRENCY

[102] Although Bitcoin was created in 2009, cryptocurrency investors had to wait until 2014 before the Internal Revenue Service (IRS) provided any guidance on how cryptocurrency would be taxed.³⁶⁶ The IRS released Notice 2014-21, which provided—most importantly—that cryptocurrencies are taxed as “property,” and that cryptocurrency earned from mining on a

³⁶⁴ Frederick Munawa, ‘Proof of Reserves’ Emerges as a Favored Way to Prevent Another FTX, COINDESK (Nov. 17, 2022 at 4:58 PM), <https://www.coindesk.com/tech/2022/11/17/proof-of-reserves-emerges-as-a-favored-way-to-prevent-another-ftx/#:~:text=If%20in%20place%20at%20FTX,Fried's%20trading%20firm%20Alameda%20Research>) [https://perma.cc/P344-HNXA].

³⁶⁵ See e.g., S. 2281; H.R. 4763.

³⁶⁶ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

PoW blockchain is includible in a taxpayer's gross income.³⁶⁷ As discussed below, treating cryptocurrency as property for federal income taxation purposes results in a double-taxation that other currencies are not subject to.³⁶⁸ The IRS has recently increased its focus on preventing tax evasion through cryptocurrency.³⁶⁹ However, many substantive questions remain on how the United States will tax certain cryptocurrency activities.

A. IRS Notice 2014-21

[103] IRS Notice 2014-21 announced to United States taxpayers that “convertible” virtual currencies (virtual currencies that have an equivalent value in real currency) are considered “property” for federal income tax purposes.³⁷⁰ The IRS listed Bitcoin as an example of a convertible virtual currency, while Ethereum (ETH) and Ripple (XRP) would also classify as convertible virtual currencies.³⁷¹ Under federal tax law, taxing an asset as “property” means the asset is given capital treatment, like a security.³⁷² Cryptocurrency holders in the United States must find their basis in the asset when they acquire it, which is the cost of acquiring the cryptocurrency. When cryptocurrency is sold or otherwise dispossessed, taxpayers must calculate their capital gains or losses.³⁷³

³⁶⁷ *Id.*

³⁶⁸ *See id.*

³⁶⁹ Press Release, U.S. Dep’t of the Treasury, IRS Release Proposed Regulations on Sales and Exchanges of Digital Assets by Brokers (Aug. 25, 2023), <https://home.treasury.gov/news/press-releases/jy1705> [<https://perma.cc/7YB8-FCQZ>].

³⁷⁰ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

³⁷¹ *Id.*

³⁷² 26 U.S.C. § 1221.

³⁷³ 26 U.S.C. § 1001.

1. Taxing “Property”

[104] Because cryptocurrencies are treated as property for tax purposes, crypto is subject to capital gains and losses rules.³⁷⁴ When someone trades, sells, or otherwise disposes of cryptocurrency, they must calculate their capital gains or losses realized on the exchange by subtracting their basis in the property from their amount realized.³⁷⁵ Taxpayers can deduct up to \$3,000 of capital losses against their ordinary income, and losses in excess of \$3,000 can be offset only against any capital gains the taxpayer recognized.³⁷⁶ If a taxpayer lacks capital gains to offset the capital losses in excess of \$3,000, the capital losses must be carried over to the next taxable year.³⁷⁷

[105] To illustrate how “property” is taxed, consider an individual who purchased 1,000 ADA on October 25, 2019, when ADA was \$.40 each.³⁷⁸ The individual would have a \$400 basis in their ADA, plus any transaction fees paid to acquire the ADA. If the individual sold their 1,000 ADA on August 28, 2021, when ADA was \$2.85 per coin,³⁷⁹ the transaction would result in a \$2,450 capital gain (as calculating gain is determined by subtracting the adjusted basis of \$400 from the amount realized of \$2,850 to get a \$2,450 gain). The taxpayer’s \$2,450 gain would be taxed at the

³⁷⁴ *Id.*

³⁷⁵ *Id.*

³⁷⁶ 26 U.S.C. § 1211.

³⁷⁷ 26 U.S.C. § 1212(b).

³⁷⁸ *Cardano price*, COINMARKETCAP, <https://coinmarketcap.com/currencies/cardano/> [<https://perma.cc/RV4V-56BC>] (last visited Oct. 1, 2023).

³⁷⁹ *Id.*

preferential, long-term capital gain rate because the individual held the ADA for over one year.³⁸⁰

a. Paying for Services with “Property”

[106] If a taxpayer receives cryptocurrency for providing services or selling goods, then the fair market value of the cryptocurrency received is includable in the taxpayer’s reportable gross income.³⁸¹ This is the same outcome as when a taxpayer is compensated for goods or services with United States dollars; however, because cryptocurrency is taxed as property, taxpayers must also calculate their basis in the cryptocurrency.³⁸² The taxpayer’s basis in the cryptocurrency is the fair market value of the cryptocurrency when they receive it.³⁸³ This is the same outcome as when someone is paid for services with shares in a company.³⁸⁴

[107] To illustrate: consider a tutor who charges \$20 per hour and accepts ADA as a form of payment. Further, imagine that the tutor has agreed to give four hours of lessons to our 1,000 ADA investor, beginning on August 28, 2021. The investor prepays for the lessons at the current fair market value of \$2.85 per ADA,³⁸⁵ which amounts to 28.07 ADA, for the lessons worth \$80 USD. First, the investor dispossessed 28.07 ADA, which

³⁸⁰ 26 U.S.C. § 1222.

³⁸¹ I.R.S. Notice 2014-21, 2014-16 I.R.B. 938–39.

³⁸² *Id.*

³⁸³ *Id.* at 938.

³⁸⁴ *Int’l Freighting Corp. v. Comm’r of Internal Revenue*, 135 F.2d 310, 313 (2d Cir. 1943).

³⁸⁵ *See generally* 26 C.F.R. § 1.61-6 (2023) (applying the general rule of gains derived from dealings in property to a hypothetical example); *Cardano price*, *supra* note 378.

constitutes a recognition event under I.R.C. § 1001(a),³⁸⁶ and had an amount realized of \$80 USD. The investor's \$400 basis in the 1,000 ADA must be equally apportioned to the 28.07 ADA transferred to the tutor.³⁸⁷ The investor's equally apportioned basis in the 28.07 ADA would be \$11.23, and the investor thus realized a gain of \$68.77 on the transaction.³⁸⁸ The investor would have to recognize \$68.77 in capital gains on their tax returns and would retain \$388.77 of their basis in the 971.93 ADA remaining in their wallet.³⁸⁹

[108] The IRS taxes cryptocurrencies like a security rather than a currency, and the resulting complexities and tax consequences underlying a simple transaction disincentivize cryptocurrencies' adoption.³⁹⁰ Getting paid in "property" can be equally complicated.

b. Getting Paid with "Property"

[109] This transaction between the investor and the tutor also produces complex tax consequences to the tutor. The tutor would have to report the \$80 in ADA in their gross income as compensation earned from providing services,³⁹¹ and they would receive an \$80 basis in the 28.07 ADA

³⁸⁶ See generally 26 U.S.C. § 1001(a).

³⁸⁷ See generally 26 C.F.R. § 1.61-6 (2023).

³⁸⁸ *Id.*

³⁸⁹ See generally 26 U.S.C. §§ 1001(b)(1)–(2), 1011(a)–(b) (applying the general rule of gains derived from dealings in property to a hypothetical example).

³⁹⁰ See Katherine Baer et al., *Crypto Poses Significant Tax Problems—and They Could Get Worse*, IMF BLOG (July 5, 2023), <https://www.imf.org/en/Blogs/Articles/2023/07/05/crypto-poses-significant-tax-problems-and-they-could-get-worse> [<https://perma.cc/T6UJ-VRLX>].

³⁹¹ See generally 26 U.S.C. § 61 (applying the definition of gross income to a hypothetical example).

received.³⁹² The tutor could hold onto the ADA; however, they might have to eventually sell some to pay taxes or to pay for goods or services not accepting ADA. If the tutor sold the 28.07 ADA on an exchange on December 10, 2021 (when ADA was worth \$1.35 per coin—\$37.89 in total),³⁹³ this would be a taxable event.³⁹⁴ The tutor would have an amount realized of \$37.89 on the sale, thereby yielding a short-term capital loss of \$42.11. The tutor could deduct the \$42.11 in capital losses from their ordinary income because the \$42.11 is less than \$3,000, the amount of capital losses permitted to be deducted against ordinary income under § 1211(b).³⁹⁵ If the tutor had many clients paying in cryptocurrency, however, and had capital losses exceeding the \$3,000 threshold, the tutor would be taxed on the full \$80 of ADA under the higher, ordinary income rates, even after realizing a capital loss.³⁹⁶

[110] If the tutor recognized a gain when selling the ADA, the tutor would have to pay capital gains taxes on the capital gains recognized from the sale, and the \$80 in ADA would be taxed as ordinary income earned from providing services.³⁹⁷ This simple transaction shows how taxing cryptocurrency as “property” makes it impractical for cryptocurrency to be used as an everyday currency. If the investor paid the tutor with \$80 USD,

³⁹² See generally *id.* at § 1011 (applying the general rule of using an adjusted basis for determining gain or loss to a hypothetical example).

³⁹³ *Cardano price*, *supra* note 378.

³⁹⁴ See generally 26 U.S.C. § 1001 (applying the general rule of gains derived from dealings in property to a hypothetical example).

³⁹⁵ See generally 26 U.S.C. § 1211.

³⁹⁶ See generally 26 U.S.C. § 61 (applying the general rule of gains derived from dealings in property to a hypothetical example).

³⁹⁷ See generally §§ 61, 1001 (applying the general rule of gains derived from dealings in property to a hypothetical example).

the tutor would have \$80 in gross income, and that's it.³⁹⁸ The investor and the tutor would both bypass the additional level of taxation at the capital gains level, even though the USD value is subject to fluctuation, too.

2. Cryptocurrency Earned from Mining

[111] Notice 2014-21 further provides that, when someone operating a node on a PoW network successfully “mines” cryptocurrency, the fair market value of the cryptocurrency at the time of receipt is includible in the taxpayer's gross income.³⁹⁹ For example, the aforementioned miner of Bitcoin block #660000 received \$117,370 in Bitcoin for mining the block, and the same amount would be includible in their gross income.⁴⁰⁰ If a taxpayer's cryptocurrency mining activities constitute a trade or business, the mining operation's net earnings constitute self-employment income and are subject to the self-employment tax.⁴⁰¹ Some cryptocurrency miners fail to meet the trade or business standard and thus treat their mining rewards as ordinary income.⁴⁰² Some cryptocurrency mining activities clearly constitute a business, such as the operations run by Riot, which is a publicly traded company.⁴⁰³ Riot mined 5,554 Bitcoin in 2022, which was worth

³⁹⁸ 26 U.S.C § 61.

³⁹⁹ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

⁴⁰⁰ *Id.*

⁴⁰¹ *Id.*

⁴⁰² See Miles Brooks, *Crypto Mining Taxes: Beginner's Guide 2023*, COINLEDGER (Mar. 27, 2023), <https://coinledger.io/blog/how-to-handle-cryptocurrency-mining-on-your-taxes#frequently-asked-questions-about-crypto-mining> [<https://perma.cc/37XL-XJ5F>].

⁴⁰³ *Riot Platforms, Inc. Common Stock (RIOT)*, NASDAQ, <https://www.nasdaq.com/market-activity/stocks/riot> [<https://perma.cc/7KFZ-KF35>] (last visited Sept. 24, 2023).

around \$259.2 million.⁴⁰⁴ In January 2023, Riot broke a record by mining 740 Bitcoin in just a month, which was worth approximately \$16.8 million.⁴⁰⁵ The Bitcoin's fair market value at the time it is received is includible in Riot's gross income.⁴⁰⁶

[112] In sum, IRS Notice 2014-21 provides, in part, that cryptocurrencies are taxed as "property," and when cryptocurrency is earned from mining rewards, the cryptocurrencies' fair market value at the time of receipt is includible in the taxpayer's gross income.⁴⁰⁷ As a result of the double taxation scheme inherent in transacting with "property," it is impractical for businesses and individuals to adopt cryptocurrency as a form of payment.⁴⁰⁸ Further, cryptocurrencies are volatile assets.⁴⁰⁹ Including the fair market

⁴⁰⁴ Press Release, Riot Blockchain, Inc., Riot Reports Full Year 2022 Financial Results, Current Operational and Financial Results, Current Operational and Financial Highlights (Mar. 2, 2023), <https://www.riotplatforms.com/investors/news-events/press-releases/detail/147/riot-reports-full-year-2022-financial-results-current> [<https://perma.cc/UH3S-KFF6>].

⁴⁰⁵ Press Release, Riot Blockchain, Inc., Riot Produces New All-Time High of 740 Bitcoin in January 2023 and Provides Infrastructure Update (Feb. 6, 2023), <https://www.riotplatforms.com/investors/news-events/press-releases/detail/146/riot-announces-january-2023-production-and-operations> [<https://perma.cc/R6NA-279Y>]; Andrew Asmakov, *Riot Just Mined The Most Bitcoin It Ever Has in a Month*, DECRYPT (Feb. 6, 2023), <https://decrypt.co/120672/riot-just-mined-most-bitcoin-ever-has-month> [<https://perma.cc/5VGV-BQFF>].

⁴⁰⁶ I.R.S. Notice 2014-21, 2014-16 I.R.B. 938–39.

⁴⁰⁷ *Id.* at 938.

⁴⁰⁸ Katherine Baer et al., *Taxing Cryptocurrencies*, 12 (IMF Working Paper, WP/23/144, 2023).

⁴⁰⁹ Edul Patel, *From Lack of Regulations To Speculation: Why Crypto Is More Volatile Than Stocks*, ABP LIVE, <https://news.abplive.com/business/crypto/from-lack-of-regulations-to-speculation-why-crypto-is-more-volatile-than-stocks-1582538> [<https://perma.cc/KGV5-QHVV>] (last updated Feb. 16, 2023, 12:49 PM).

value of cryptocurrencies earned from mining and performing services in a taxpayer's gross income—and receiving a fair market value basis in cryptocurrency—potentially leads to disastrous tax consequences.

B. More Recent IRS Activity

[113] The IRS published Notice 2014-21 almost a decade ago, and the IRS has released subsequent Notices and Rulings pertaining to cryptocurrencies since then.⁴¹⁰ While the IRS has been forced to address complex substantive tax issues regarding cryptocurrencies, recent IRS efforts have been targeted towards the complex administrative issues cryptocurrencies pose.⁴¹¹

1. IRS Revenue Ruling 2019-24

[114] IRS Revenue Ruling 2019-24 announced that any cryptocurrency “air dropped” to a taxpayer, because of a “hard fork,” is includible in the taxpayer's gross income.⁴¹² A hard fork is when a cryptocurrency on a blockchain undergoes a protocol change, which results in a permanent diversion from the existing blockchain history, and a new cryptocurrency is created on the new blockchain.⁴¹³ After the hard fork, new cryptocurrency transactions are recorded on the new blockchain and transactions involving the “legacy” cryptocurrency are recorded on the legacy blockchain.⁴¹⁴ Sometimes when a blockchain undergoes a hard fork, the blockchain will “air drop” the new tokens to the legacy token holders.⁴¹⁵ Pursuant to

⁴¹⁰ See I.R.S. Notice 2019-2221; Rev. Rul. 2019-24, 2019-44 I.R.B. 1004.

⁴¹¹ See Rev. Rul. 2019-24, 2019-44 I.R.B. 1004.

⁴¹² *Id.*

⁴¹³ *Id.*

⁴¹⁴ *Id.*

⁴¹⁵ *Id.*

Revenue Ruling 2019-24, when a blockchain network undergoes a hard fork and airdrops new tokens to U.S. taxpayers, the new airdropped tokens constitute gross income under IRC § 61.⁴¹⁶

2. Administrative Efforts to Prevent Tax Evasion

[115] The IRS is focusing its administrative efforts on identifying taxpayers with cryptocurrency holdings.⁴¹⁷ After IRS Notice 2019-132, the IRS sent letters to virtual currency owners advising them to pay the taxes they failed to include in prior taxable years.⁴¹⁸ In 2021, 2022 and 2023, the IRS required taxpayers to answer a new “yes or no” virtual currency question when taxpayers filed Forms 1040, 1040-SR, and 1040-NR.⁴¹⁹ Taxpayers who disposed of any virtual currency held as a capital asset through sale, exchange, or transfer must answer “yes,” compute their capital gains and losses on Form 8949, and report their gain or loss as income on Schedule D Capital Gains and Losses.⁴²⁰

[116] The IRS is put in a difficult position here: it is used to dealing with financial instruments passing through centralized intermediaries, but cryptocurrency has no such intermediary besides centralized exchanges,

⁴¹⁶ See Rev. Rul. 2019-24, 2019-44 I.R.B. 1004.

⁴¹⁷ I.R.S. News Release IR-2019-132 (Jul. 26, 2019).

⁴¹⁸ Guinevere Moore, *Virtual Currency Reality: The IRS Crack Down on Cryptocurrency*, MOORE TAX LAW GROUP (Sept. 2019), https://www.mooretaxlawgroup.com/wp-content/uploads/sites/1604214/2020/05/jtpp_21-04_moore.pdf [<https://perma.cc/86PJ-DT5S>].

⁴¹⁹ I.R.S. News Release IR-2023-12 (Jan. 24, 2023).

⁴²⁰ *Id.*

some of which are not in the United States.⁴²¹ Moreover, cryptocurrency investors could either leave cryptocurrencies in their wallets or bypass centralized exchanges by using decentralized exchanges and, consequently, make no reporting on their returns, which is likely what led to Notice 2019-132.⁴²²

3. IRS Proposed Regulations for Cryptocurrency Brokers

[117] Most recently, the IRS issued proposed regulations that extend reporting requirements to cryptocurrency “brokers”.⁴²³ IRC § 6045 requires every person doing business as a broker to, when required by the Secretary of Treasury, file an information return with the name and address of each customer, details regarding gross proceeds, and the adjusted basis of certain categories of assets sold.⁴²⁴ Section 80603(a) of the Infrastructure Investment and Jobs Act amends the § 6045 definition of “broker” to include any person who, for consideration, provides services effectuating transfers of digital assets on behalf of other persons.⁴²⁵

⁴²¹ John Buhl, *Treasury Takes Big-Picture View with Newest Crypto Proposal*, TAX POLICY CENTER (Sept. 19, 2023), <https://www.taxpolicycenter.org/taxvox/treasury-takes-big-picture-view-newest-crypto-proposal> [<https://perma.cc/C5U8-S9RE>].

⁴²² Joyce Beebe, *Did You Report Your Bitcoin Income to the IRS?*, BAKER INST. (Apr. 10, 2020), <https://www.bakerinstitute.org/research/did-you-report-your-bitcoin-income-irs> [<https://perma.cc/TPG2-53QR>].

⁴²³ Gross Proceeds and Basis Reporting by Brokers and Determination of Amount Realized and Basis for Digital Asset Transactions, 88 Fed. Reg. 59576 (proposed Aug. 29, 2023), <https://www.federalregister.gov/documents/2023/08/29/2023-17565/gross-proceeds-and-basis-reporting-by-brokers-and-determination-of-amount-realized-and-basis-for> [<https://perma.cc/8Z69-A6R9>].

⁴²⁴ 26 U.S.C. § 6045 (2021).

⁴²⁵ 88 Fed. Reg. 59576, *supra* note 423, at 5.

[118] In explaining the rationale for the new reporting rules, the IRS says:

Digital assets have grown in popularity as both a payment method and an investment or trading asset. Proponents believe that digital assets may offer potential benefits over traditional fiat currencies, such as lower transactions costs and faster transaction speeds. Digital assets may also be popular, however, because the distributed ledger record of transactions does not include the identity of the parties involved in the transactions. This pseudonymity creates a significant risk to tax administration.⁴²⁶

[119] The IRS will need to continue its efforts in easing the administrative burdens cryptocurrencies pose, but there are also unresolved substantive tax issues.

C. Unanswered Questions on How the United States Taxes Cryptocurrency

[120] There are three substantive, unresolved tax issues covered here: (1) whether staking rewards are includible in gross income when they are received; (2) whether cryptocurrency traders can make a mark-to-market election; and (3) whether investors in crypto assets are permitted to make an obsolescence of nondepreciable property deduction.

1. Earning Cryptocurrency as Staking Rewards on PoS Blockchains

[121] As mentioned above, IRS Notice 2014-21 provides that cryptocurrency earned as mining rewards are includible in the taxpayer's

⁴²⁶ *Id.*

gross income when the cryptocurrency is received.⁴²⁷ In the years since Notice 2014-21, the IRS has failed to provide any guidance on whether staking rewards are includible in gross income when they are received.

[122] A Nashville couple, Joshua and Jessica Jarrett (collectively, “the Jarretts”), purchased Tezos (XTZ) coins and staked the coins with a node on Tezos’ PoS network.⁴²⁸ The Jarretts received 8,876 Tezos (XTZ) in staking rewards during 2019.⁴²⁹ The Tezos coins were worth \$9,407 when the Jarretts received them, and the Jarretts reported that amount as income and paid the corresponding income taxes.⁴³⁰ On July 31, 2020, the Jarretts filed an amended tax return requesting a \$3,793 refund from the IRS.⁴³¹ The Jarretts argued that, under IRC § 1001(a), the virtual currency they earned as staking rewards failed to constitute taxable income because property is only taxed when it is sold or disposed, rather than when it is created.⁴³² The Department of Justice ordered the IRS to issue the \$3,793 refund to the Jarretts, but the Jarretts refused the refund because the IRS did not provide

⁴²⁷ Andrea Ben-Yosef, *Cryptocurrency stakers must include rewards in gross income upon gaining control of them*, TAX NEWS UPDATE (Aug. 10, 2023), <https://globaltaxnews.ey.com/news/2023-1388-cryptocurrency-stakers-must-include-rewards-in-gross-income-upon-gaining-control-of-them> [https://perma.cc/U2NH-SHJ6].

⁴²⁸ Jarrett v. United States, No. 3:21-CV-00419, 2022 U.S. Dist. LEXIS 178743, at *5 (M.D. Tenn., Sept. 30, 2022).

⁴²⁹ Shehan Chandrasekera, *Crypto Couple's Victory Against The IRS Comes At The Cost Of Regulatory Clarity*, FORBES (Mar. 7, 2022, 9:51 AM), <https://www.forbes.com/sites/shehanchandrasekera/2022/03/07/crypto-couples-victory-against-the-irs-comes-at-the-cost-of-regulatory-clarity/?sh=2a00a56f48f9> [https://perma.cc/A3BH-432X].

⁴³⁰ *Id.*

⁴³¹ *Id.*

⁴³² *Id.*

its rationale for issuing the refund.⁴³³ The IRS argued the refund rendered the Jarretts' action moot and filed a motion to dismiss, which was granted on September 30, 2022.⁴³⁴ Thus, taxpayers earning staking rewards on a PoS blockchain lack clarity on how, if, or when the IRS will tax their earnings.

2. Whether Cryptocurrency Traders Can Make a Mark-To-Market Election

[123] Internal Revenue Code (IRC) § 475(f) provides commodities and securities traders with the option to make a “mark-to-market” election.⁴³⁵ If a trader makes a mark-to-market election, all the securities (and/or commodities) they hold are deemed as sold for their fair market value at the end of the year, and the taxpayer recognizes *ordinary* gain or loss associated with the deemed sales.⁴³⁶ If the taxpayer has a gain after the deemed sales, then the taxpayer recognizes ordinary income on the gain. But if the taxpayer recognizes a loss on the deemed sales, the taxpayer is permitted to deduct the losses from their ordinary income.⁴³⁷ The taxpayer still holds the assets, and each asset's basis is adjusted to its current fair market value, just as if the trader sold the assets to themselves. Recharacterizing a capital loss as an ordinary loss is significant for two reasons: (1) ordinary income is taxed at a higher rate than capital income, so deductions against ordinary income are more valuable than deductions against capital income; and (2)

⁴³³ Jarrett v. United States, No. 3:21-CV-00419, 2022 U.S. Dist. LEXIS 178743, at *5 (M.D. Tenn., Sept. 30, 2022).

⁴³⁴ *Id.* at *1.

⁴³⁵ I.R.C. § 475(f).

⁴³⁶ *Id.*

⁴³⁷ Michael R. Harmon & William N. Kulsrud, *Sec. 475 Mark-to-Market Election*, THE TAX ADVISER (Feb. 1, 2010), <https://www.thetaxadviser.com/issues/2010/feb/sec475mark-to-marketelection.html> [<https://perma.cc/H5V4-Z9NL>].

taxpayers can typically deduct only up to \$3,000 in capital losses against their ordinary income, and any excess losses are carried forward to the next taxable year if the taxpayer lacks sufficient capital gains to absorb the losses.⁴³⁸

[124] § 475(a) requires securities dealers to use mark-to-market accounting for all securities held in inventory at the end of the taxable year.⁴³⁹ The mark-to-market election, however, is available to commodities traders and dealers, as well as securities traders.⁴⁴⁰ The SEC and the CFTC have fought over whether cryptocurrencies are securities or commodities, but the commissions agree Bitcoin is a commodity and acknowledge most cryptocurrencies either classify as securities or commodities.⁴⁴¹ Nonetheless, cryptocurrency traders and dealers lack uniform guidance on whether they are permitted to make this, at times, valuable election.

3. Memorandum Number 202302011

[125] Internal Revenue Code § 165 governs losses for United States taxpayers.⁴⁴² One of the losses, permitted by § 165(g), is called the “worthless securities” deduction.⁴⁴³ Under § 165(g), if any security becomes worthless during a taxable year, the loss resulting therefrom shall

⁴³⁸ Julia Kagan, *How to Deduct Stock Losses From Your Tax Bill*, INVESTOPEDIA, <https://www.investopedia.com/articles/personal-finance/100515/heres-how-deduct-your-stock-losses-your-tax-bill.asp> [<https://perma.cc/X8PY-9CPS>] (last updated Mar. 31, 2023).

⁴³⁹ 26 U.S. § 475(a).

⁴⁴⁰ *Id.*

⁴⁴¹ Brady Dale, *Bitcoin is the only coin the SEC Chair will call a commodity*, AXIOS (Jun. 28, 2022), <https://www.axios.com/2022/06/28/bitcoin-is-the-only-coin-the-sec-chair-will-call-a-commodity> [<https://perma.cc/H292-V86Y>].

⁴⁴² I.R.C. § 165.

⁴⁴³ *Id.* at § 165(g).

be treated as a loss from a sale or exchange if the investor is unwilling or unable to sell or otherwise dispose of the security in a taxable transaction.⁴⁴⁴ Fraud is rampant in the cryptocurrency industry, with developers luring investors' capital by promising to build an expert project, only to abandon the project after receiving investor's money.⁴⁴⁵ As a result, many cryptocurrency investors have been left with worthless cryptocurrencies, and taxpayers requested guidance from the IRS as to whether the worthless securities deduction applies to cryptocurrencies.⁴⁴⁶

[126] In January 2023, the IRS Office of Chief Counsel released Memorandum 202302011, which concluded that cryptocurrency investors were not permitted a § 165(g) deduction because cryptocurrencies do not fall within § 165(g)(2)'s definition of securities.⁴⁴⁷ The Memorandum indicates a deduction may be available, however, under § 165(a) through Treasury Regulation § 1.165-2(a), which addresses obsolescence of nondepreciable property.⁴⁴⁸ Under Treasury Regulations § 1.165-2(a), taxpayers can claim a loss when: (1) the loss is incurred in a business or a transaction entered for profit; (2) the loss arises from the sudden termination of usefulness in the business or transaction; and (3) the property is permanently discarded from use, or the transaction is discontinued.⁴⁴⁹

⁴⁴⁴ *Id.*

⁴⁴⁵ Amiah Taylor, *Watch out for the 'rug pull' crypto scam that's tricking investors out of millions*, FORTUNE (Mar. 2, 2022, 7:36 PM), <https://fortune.com/2022/03/02/crypto-scam-rug-pull-what-is-it/> [<https://perma.cc/3HBD-ZFEV>].

⁴⁴⁶ *Id.*

⁴⁴⁷ I.R.S. Gen. Couns. Mem. 202302011 (Jan. 13, 2023).

⁴⁴⁸ *Id.*

⁴⁴⁹ 26 C.F.R. § 1.165-2

[127] Memorandum 202302011 falls short of explicitly permitting the deduction because, under the facts considered in the Memorandum, the investor never abandoned the crypto asset.⁴⁵⁰ Moreover, the Memorandum is inconclusive on whether the crypto asset is worthless when each token is worth less than a penny and the token is traded on at least one exchange.⁴⁵¹ However, Memorandum 202302011 does indicate whether an investor holding a worthless crypto asset will be permitted to take a capital loss when the investor abandons the asset.⁴⁵² Abandoning the worthless crypto asset in this context would likely be satisfied by “burning” a crypto asset, which is the process of sending a crypto asset to an inaccessible wallet on the blockchain network.⁴⁵³

V. OFFERING A CRYPTOCURRENCY REGULATION AND TAXATION SCHEME FOR THE UNITED STATES

[128] When Satoshi Nakamoto wrote the Bitcoin white paper in 2009, the U.S. federal government had just printed \$1 trillion in new money to bail out the financial sector following the 2007/2008 financial crisis.⁴⁵⁴ This influx of \$1 trillion increased the existing money supply and decreased the

⁴⁵⁰ I.R.S. Gen. Couns. Mem. 202302011, *supra* note 447.

⁴⁵¹ *Id.*

⁴⁵² *Id.*

⁴⁵³ Nathan Reiff, *What Does It Mean to Burn Crypto? Practical Applications*, INVESTOPEDIA, <https://www.investopedia.com/tech/cryptocurrency-burning-can-it-manage-inflation/> [<https://perma.cc/YN7U-P2AY>] (last updated June 2, 2022) [hereinafter Reiff, *What Does It Mean to Burn Crypto?*].

⁴⁵⁴ Frank Emmert, *The Regulation of Cryptocurrencies in the United States of America*, RESEARCHGATE (Feb. 2022), https://www.researchgate.net/publication/358906189_The_Regulation_of_Cryptocurrencies_in_the_United_States_of_America [<https://perma.cc/GZ5Y-398H>].

value of assets and savings owned by corporations and individuals.⁴⁵⁵ In addition to resolving the issues inherit with third-parties processing payments, Satoshi sought to create a payment system where no central bank had power to directly impact a currency's value.⁴⁵⁶ Satoshi embedded a message on the first block on Bitcoin's blockchain that said, "Chancellor on the Brink of Second Bailout for Banks."⁴⁵⁷

[129] What Satoshi created "is a lot like gold," but "it is digital rather than a heavy, unwieldy object. In other words, Bitcoin could serve the same purposes as gold in terms of a currency, but much more efficiently because it does not have any mass and can be sent easily from place to place."⁴⁵⁸ Some experts believe blockchain technology and cryptocurrencies will enhance economic efficiency and have a broad lasting impact on global financial markets in payments, banking, securities settlement, title recording, cyber security, and more.⁴⁵⁹ Blockchain technology's full potential will likely be unmet, however, unless our regulatory and taxation schemes protect consumers and incentivize adopting cryptocurrency as a form of payment.

⁴⁵⁵ *Id.*

⁴⁵⁶ See Allison Nathan, *Interview with Eric Posner*, 21 GLOB. MACRO RSCH.: TOP OF MIND, 3 (2014), <https://www.dwt.com/files/paymentlawadvisor/2014/01/GoldmanSachs-Bit-Coin.pdf> [<https://perma.cc/3P9K-JLSC>].

⁴⁵⁷ Carla Tardi, *Genesis Block: Bitcoin Definition, Mysteries, Secret Message*, INVESTOPEDIA (July 2, 2021), <https://www.investopedia.com/terms/g/genesis-block.asp#:~:text=Bitcoin's%20Genesis%20Block%20Secret%20Message,of%20second%20bailout%20for%20banks.%22> [<https://perma.cc/8TF3-UEHK>].

⁴⁵⁸ Nathan, *supra* note 456, at 4.

⁴⁵⁹ Chairman's Testimony on Virtual Currencies: The Roles of the SEC and CFTC: Hearing Before the S. Comm. on Banking, Hous. and Urb. Aff. 115th Cong. (2018) (written testimony of Christopher Giancarlo, Chairman of the CFTC).

[130] As to regulation, Congress should create a joint SRO between the SEC and CFTC, provide qualitative and quantitative measures to determine whether a digital asset is a commodity or a security, and institute consumer protections such as annual verification of proof of reserves. From a taxation standpoint, the United States should provide leniency by establishing non-recognition events and allowing crypto traders and nodes to make deductions that are available for commodities and securities activities.

A. How the United States Should Regulate Cryptocurrency

[131] To incentivize its adoption from a regulatory standpoint, the United States should create a joint self-regulatory organization with original jurisdiction over all cryptocurrencies. Congress should also adopt the FIT Act's functionality and decentralization inquiries to provide objective measures in determining whether a crypto is a commodity or a security. Further, requiring crypto intermediaries to annually verify proof of reserves, as the RFIA does, will provide better consumer protection.

1. Advocating for a Joint Self-Regulatory Organization with Original Jurisdiction over Cryptocurrency Activities

[132] The SEC and CFTC have attempted to regulate this novel industry with an already-existing regulatory scheme. Employing the United States' existing regulatory scheme has worked to retroactively prosecute fraudulent activity, such as in *SEC v. Bitcoin Savings and Trust*, but it has failed to provide effective, proactive oversight for investors, as evidenced by the FTX scandal. The U.S. federal government has attempted to fit a square peg (cryptocurrency) into a round hole (the existing regulatory scheme). The SEC and CFTC have each taken their turns regulating cryptocurrency in different contexts, and this bifurcated approach has yielded a lack of clarity for investors and developers.⁴⁶⁰ Because cryptocurrencies are unlike assets

⁴⁶⁰ *Id.*

the world has seen before, Congress should create a new agency to serve as the first line of regulation for the cryptocurrency industry.

[133] Congress should establish a joint self-regulatory organization to serve as a one-stop agency for all cryptocurrency activities. Providing the SRO with original jurisdiction over all cryptocurrency activities would prevent the initial turf war that ensues between the CFTC and the SEC over current cryptocurrency matters. Further, the CFTC and SEC could pool their capital and expertise together to provide clear, uniform guidance to cryptocurrency developers, while also overseeing markets to protect cryptocurrency investors. Under the current regulatory regime—and even after the *Ripple Labs* case—crypto developers are unsure whether they have engaged in the unregistered sale of securities or commodities, but the SRO could provide guidance on all cryptocurrencies and serve as an intermediary between developers and regulators. If the SRO successfully oversees cryptocurrency markets, investors will have more confidence in the space, which would logically bring in more investment. Because this technology and the products offered are unlike anything the world has seen before, Congress should create a new regulatory body rather than attempt to use its current regulatory scheme.

[134] As mentioned in Section IV, the former version of the Lummis-Gillibrand RFIA tasks the CFTC and SEC with studying, reporting, and developing a plan for the two agencies to create a joint SRO.⁴⁶¹ The two Senators are not alone in believing a new SRO is needed to regulate cryptocurrencies: the former CFTC Chair, Timothy Massad, endorsed this approach in an interview in August 2022.⁴⁶² Massad considered the Digital Commodity Exchange Act of 2022, which provided the CFTC with exclusive jurisdiction over cryptocurrencies, and said it was unworkable because the CFTC is underfunded and would not be able to handle it

⁴⁶¹ *Id.*

⁴⁶² Velasquez, *supra* note 358.

alone.⁴⁶³ With a joint SRO, the CFTC and the SEC would have the collective expertise and resources to oversee the cryptocurrency industry, and over time, the SRO would provide clear guidance to developers as well as investor protections.

2. Advocating for a Qualitative and Quantitative Howey Test

[135] The FIT Act and the RFIA take two different approaches in clarifying when a digital asset constitutes a security or a commodity. The RFIA codifies the *Howey* test, which fails to give the appropriate clarity developers and investors in the crypto industry seek. The FIT Act, on the other hand, provides qualitative and quantitative measures for determining whether a cryptocurrency constitutes a digital commodity or a restricted digital asset. Further, the FIT Act maintains that digital assets remain restricted digital assets, subject to the SEC's regulatory enforcement, until either the SEC or CFTC certifies a functional blockchain as decentralized.⁴⁶⁴ The FIT Act's approach provides more clarity than the RFIA's, and Congress should adopt legislation with mechanisms like the FIT Act's functional and decentralization measures.

3. Advocating for Annually Verifying Proof of Reserves

[136] From a consumer protection standpoint, the RFIA requiring digital asset intermediaries to undergo annual verification of proof of reserves provides more extensive consumer protections than the FIT Act. The FIT Act requires digital commodity exchanges to "establish standards and procedures that are designed to protect and ensure the safety of consumer

⁴⁶³ *Id.*

⁴⁶⁴ See e.g., Financial Innovation and Technology of the 21st Century Act, H.R. 4763, 118th Cong. (2023).

money, assets, and property.”⁴⁶⁵ While the FIT Act provides explicit measures for determining whether an asset is regulated as a commodity or a security, it imposes vague reporting and consumer protection standards. The opposite is true with the RFIA; requiring digital asset intermediaries to undergo annual audits ensuring customers’ funds are available is a logical and worthy policy.

B. A More Lenient Taxation Scheme

[137] Taxing cryptocurrencies as “property” disincentivizes businesses and individuals to receive payment in cryptocurrency for two main reasons: (1) it provides two layers of taxation—a tax on the fair market value of the cryptocurrency at ordinary income rates and a capital tax when the asset is sold or dispossessed; and (2) it fails to account for cryptocurrencies’ extreme volatility, and a taxpayer may be taxed on ordinary income exceeding the cryptocurrency’s subsequent fair market value.⁴⁶⁶ To incentivize cryptocurrencies’ adoption, there are four policies the United States should adopt for greater leniency in taxing cryptocurrencies: (1) providing a non-recognition event up to a certain amount when using cryptocurrency to pay for goods or services; (2) taxing staking rewards only when the asset is sold or dispossessed; (3) allowing nodes to make a mark-to-market type election at the end of the taxable year; and (4) allowing investors in crypto assets to make an obsolescence of non-depreciable property deduction.

1. Providing Non-Recognition Events When Using Cryptocurrency for Goods or Services

[138] As discussed in Section IV, transacting with cryptocurrencies for goods or services yields more complex tax consequences than transactions

⁴⁶⁵ See *id.* at § 404.

⁴⁶⁶ Joe Lebkind, *Cryptocurrency Taxes*, INVESTOPEDIA, <https://www.investopedia.com/tech/taxes-and-crypto/> [https://perma.cc/NSH8-WHAS] (last updated July 23, 2022).

completed with USD. Complexities aside, transacting in cryptocurrencies can result in an individual recognizing a taxable gain when using cryptocurrency to pay for goods or services, such as the 1,000 ADA investor's \$68.77 gain when paying 28.07 ADA for tutoring services. Cryptocurrencies are taxed like securities, but cryptocurrencies were invented to operate as a currency.⁴⁶⁷ To limit the extra level of taxation and to treat cryptocurrencies more like currencies, Congress should establish a non-recognition event up to a certain amount when cryptocurrencies are used to pay for goods or services. The RFIA, for example, provides for a \$200 non-recognition event on gains or losses when parties transact with cryptocurrencies for goods or services.⁴⁶⁸ Under the RFIA's approach, the 1,000 ADA investor's \$68.77 gain would not be included in their gross income when they paid for tutoring services, which would be a step towards taxing cryptocurrencies like actual currencies.

[139] Although the RFIA limited the gain or loss exemption to \$200, other countries have provided for even more lenient structures. In Germany, cryptocurrency investors are not taxed on the first €600 realized from short-term capital gains on cryptocurrencies.⁴⁶⁹ German cryptocurrency investors initially paid no tax on long-term capital gains realized from selling or spending cryptocurrencies—until that taxation scheme was reversed by the German Federal Fiscal Court in March of 2023.⁴⁷⁰ Nonetheless, a de

⁴⁶⁷ Andy Rosen, *Cryptocurrency: A Basic Guide for Beginners*, NERDWALLET, <https://www.nerdwallet.com/article/investing/cryptocurrency> [<https://perma.cc/L5AQ-77Z9>] (last updated Aug. 11, 2023).

⁴⁶⁸ Lummis-Gillibrand Responsible Fin. Innovation Act, S. 4356, 117th Cong. (2022).

⁴⁶⁹ *Cryptocurrency taxation in Germany*, BITCOIN.COM, <https://www.bitcoin.com/get-started/cryptocurrency-taxation-in-germany/> [<https://perma.cc/P2LY-9NCP>] (last visited Oct. 7, 2023).

⁴⁷⁰ Jens-Uwe Hinder, *German Federal Fiscal Court Decides on the Taxation of Cryptocurrencies*, MORRISON FOERSTER (Mar. 3, 2023), <https://www.mofo.com/resources/insights/230303-german-federal-fiscal-court> [<https://perma.cc/4KYC-X986>].

minimis non-recognition event when using cryptocurrencies to pay for goods or services would allow people to use cryptocurrencies more like a currency than “property.”

2. Staking Rewards Should Be Includible in Gross Income Only when Sold or Dispossessed

[140] I strongly believe cryptocurrency earned as staking rewards should be taxed only when the assets are sold or dispossessed. As a statutory matter, whether staking rewards are taxable income under § 1001(a) is an incredibly close call. On some PoS blockchains, staking rewards are sent from the node to the individual staking their coins when the staking rewards are claimed, which likely constitutes dispossession of property under § 1001(a).⁴⁷¹ On other PoS blockchains, however, staking rewards auto-populate inside the individual’s cryptocurrency wallet.⁴⁷² When staking rewards auto-populate in someone’s wallet, there has been no sale, exchange, or dispossession of the cryptocurrency.⁴⁷³ In this way, the transaction shows that the staker is involved in the creation of the property, as the Jarretts argued in *United States v. Jarrett*.⁴⁷⁴

[141] If the United States federal government treats staking rewards sent from the node to the staker differently than staking rewards that auto-populate in someone’s wallet, blockchain developers could eventually

⁴⁷¹ See 26 U.S.C. § 1001(a).

⁴⁷² SafeMoon Dev, *SafeMoon: A Deflationary Reflection Token with Automated Liquidity Acquisition*, <https://pdf4pro.com/view/safemoon-a-deflationary-reflection-token-with-automated-624956.html> [<https://perma.cc/69AU-62XL>] (last visited Sept. 24, 2023).

⁴⁷³ Krisztian Sandor, *Crypto Staking 101: What is Staking?*, COINDESK, <https://www.coindesk.com/learn/crypto-staking-101-what-is-staking/> [<https://perma.cc/N3QT-RBE6>] (last updated Feb. 21, 2023, 2:34 PM).

⁴⁷⁴ *Jarrett v. United States*, No. 3:21-CV-00419, 2022 U.S. Dist. LEXIS 178743, at *5 (M.D. Tenn., Sept. 30, 2022).

upgrade their networks to allow staking rewards to auto-populate in stakers' wallets. As such, treating staking rewards differently depending on how the staker received the cryptocurrency will be only a part-time fix as networks would eventually evolve to adapt to the taxation scheme.

[142] Under the RFIA, cryptocurrencies earned as staking rewards are includible gross income only when sold or disposed.⁴⁷⁵ The RFIA goes a step further by also providing that mining rewards are includible in gross income only when the asset is sold or disposed, thereby overruling IRS Notice 2014-21.⁴⁷⁶

[143] As discussed in Section II, PoW blockchains consume substantially more energy than PoS blockchains. From a policy standpoint, Congress could show bias towards PoS blockchains, as they are healthier for the environment. Moreover, treating staking rewards differently depending on how the staker receives the cryptocurrency would only be a part-time fix as blockchain developers could alter the software for staking rewards to auto-populate in users' wallets. If the United States federal government adopts a scheme where staking rewards earned on a PoS blockchain are not taxable until the assets are sold or disposed, policymakers would incentivize investors towards blockchains that are healthier for the environment while adopting a policy that will be workable in the future.

3. Allowing PoS and PoW Nodes to Make a Mark-to-Market Election on Cryptocurrency Holdings

[144] Under IRS Notice 2014-21, the fair market value of mining rewards are includible in the recipient taxpayer's gross income at the time they are received, and the recipient receives a fair market value basis in the

⁴⁷⁵ Lummis-Gillibrand Responsible Fin. Innovation Act, S. 4356, 117th Cong. (2022).

⁴⁷⁶ *Id.*

cryptocurrencies.⁴⁷⁷ It is still unclear whether staking rewards are includible in gross income at the time they are received, but if staking rewards are includible in gross income at the time of receipt, then this proposal applies to network participants on PoS and PoW blockchains.

[145] If the fair market value of cryptocurrency earned as mining and staking rewards is includible in the taxpayer's gross income at the time the cryptocurrency is received, the value of the cryptocurrency holdings may subsequently decrease after nodes earn the cryptocurrency. Such a situation would result in the taxpayer reporting more gross income in their tax return than the underlying assets' current fair market value. For example: consider a Bitcoin miner who earned 1 Bitcoin in mining rewards on April 19, 2022, when Bitcoin's highest price for the day was \$41,665.50.⁴⁷⁸ The miner would have to include \$41,665.50 in their gross income, regardless of whether the miner sold or held the Bitcoin.⁴⁷⁹ At the end of the taxable year, on December 31, 2022, Bitcoin's highest price for the day was \$16,625.05.⁴⁸⁰ Thus, although the miner included \$41,665.50 in their gross income, the Bitcoin they earned and continued to hold was worth only \$16,625.05 at the end of the 2022 calendar taxable year.⁴⁸¹

[146] To prevent such an excessively harsh tax consequence, Congress could do two things: (1) pass legislation that provides that mining and staking rewards are includible in gross income only when the assets are sold

⁴⁷⁷ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

⁴⁷⁸ See *The closing price for Bitcoin (BTC) on April 19, 2022*, STATMUSE, <https://www.statmuse.com/money/ask/bitcoin-price-april-19th-2022> [<https://perma.cc/CP7K-YD58>] (last visited Oct. 7, 2023).

⁴⁷⁹ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

⁴⁸⁰ See *Bitcoin historical data*, COINMARKETCAP, <https://coinmarketcap.com/currencies/bitcoin/historical-data/> [<https://perma.cc/Z7ZJ-65F2>] (last visited Nov. 8, 2023).

⁴⁸¹ *Id.*

or dispossessed, such as the RFIA; or (2) pass legislation providing a mark-to-market type election where nodes could elect to have a deemed sale on the cryptocurrency rewards they earned the past year. Under the mark-to-market election, nodes would recognize a gain or loss on the deemed sale, and any losses realized could be deducted from the taxpayer's ordinary income. The taxpayer's basis in cryptocurrencies earned from mining and staking rewards would be adjusted to the current fair market value, and in effect, the amount includible in the taxpayer's gross income would be equal to their cryptocurrency holdings' value at the end of the taxable year rather than the value at the time the crypto is received. In this way, nodes would not have to pay high ordinary income taxes on unrealized capital sales, and nodes' gross income would more accurately reflect their current holdings and accessions to wealth.

4. Allowing Cryptocurrency Traders a Mark-to-Market Election

[147] Cryptocurrency traders, those who consider cryptocurrency trading to constitute their trade or business, should also be permitted to make a mark-to-market election at the end of a taxable year under IRC § 475. If the United States federal government is going to tax cryptocurrencies as property, this valuable election should also be available to cryptocurrency traders as it is for securities and commodities traders. The current version of the Lummis-Gillibrand RFIA provides this election to cryptocurrency dealers.⁴⁸²

5. Allowing Investors in Crypto Assets to Take an Obsolescence of Nondepreciable Property Loss

[148] Although Memorandum 202302011 is inconclusive as to whether cryptocurrency investors are permitted to make a deduction under Treasury

⁴⁸² Lummis-Gillibrand Responsible Financial Innovation Act, S. 2281, 118th Cong. (2023), at § 806.

Regulations § 1.165-2(a),⁴⁸³ the IRS should adopt this policy. Cryptocurrency investors can prove they have abandoned a crypto asset through “burning” the asset, which is sending the asset to a wallet no one can access.⁴⁸⁴ Burning an asset is the closest thing to abandoning property in the cryptocurrency context; a person who burns a crypto asset relinquishes all dominion or control over the asset.⁴⁸⁵ As to worthlessness, the IRS should rely on an asset’s subjective worthlessness—as it does with partnership interests. The IRS points out in Memorandum 202302011 that a cryptocurrency may not be worthless if it is still traded on one exchange because it still has the potential to grow in value.⁴⁸⁶ On decentralized exchanges, however, any crypto asset can be posted for sale by any user.⁴⁸⁷ As such, if a taxpayer abandons a crypto asset by burning it, the IRS should rely on the asset’s subjective value when determining if the taxpayer is permitted a deduction under § 1.165-2(a).

VI. CONCLUSION

[149] Cryptocurrency refers to a digital asset that uses blockchain technology to cryptographically record and process transactions.⁴⁸⁸ Cryptocurrency can be purchased on centralized exchanges, but it is wiser

⁴⁸³ See I.R.S. Gen. Couns. Mem. 202302011, *supra* note 447.

⁴⁸⁴ Reiff, *What Does It Mean to Burn Crypto?*, *supra* note 453.

⁴⁸⁵ See *id.*

⁴⁸⁶ I.R.S. Gen. Couns. Mem. 202302011, *supra* note 447.

⁴⁸⁷ See *What are decentralized exchanges, and how do DEXs work?*, COINTELEGRAPH, <https://cointelegraph.com/learn/what-are-decentralized-exchanges-and-how-do-dexs-work> [<https://perma.cc/8GHF-8TMW>] (last visited Oct. 7, 2023).

⁴⁸⁸ Jake Frankenfield, *Cryptocurrency Explained With Pros and Cons for Investment*, INVESTOPEDIA, <https://www.investopedia.com/terms/c/cryptocurrency.asp> [<https://perma.cc/R5GK-PQ6B>] (last updated Aug. 29, 2023).

to keep your cryptocurrency in a wallet to ensure you are the sole custodian of your cryptocurrency.

[150] The United States has taken a regulation-through-litigation approach to regulating cryptocurrency, which has resulted in unclear guidance to cryptocurrency developers and investors. Cryptocurrencies are considered commodities under the Commodity Exchange Act, and the CFTC has regulatory oversight when a virtual currency is used in a derivatives contract, or if there is fraud or manipulation involving a virtual currency traded in interstate commerce.⁴⁸⁹ The SEC, on the other hand, has regulatory oversight when a cryptocurrency passes the *Howey* test and is therefore deemed an investment contract and thus a security.⁴⁹⁰ *SEC v. Ripple Labs, Inc.* illustrates how difficult it is to apply the *Howey* test to cryptocurrency, and it failed to provide a clear direction for determining how the federal government will regulate cryptocurrencies when they are sold in an ICO or when they are sold on secondary exchanges.⁴⁹¹ Nonetheless, when an investment contract involves cryptocurrency, the SEC has jurisdiction over the matter.⁴⁹²

[151] Two pieces of legislation, the FIT Act and the RFIA, attempt to provide regulatory clarity and provide the CFTC with primary jurisdiction over cryptocurrencies. The FIT Act provides an objective inquiry in determining whether an asset is regulated by the SEC or the CFTC, which

⁴⁸⁹ *Bitcoin Basics*, CFTC (2019), https://www.cftc.gov/sites/default/files/2019-12/oceo_bitcoinbasics0218.pdf [<https://perma.cc/YH9S-XCH2>].

⁴⁹⁰ Nathan Reiff, *Howey Test Definition: What It Means and Implications for Cryptocurrency*, INVESTOPEDIA, <https://www.investopedia.com/terms/h/howey-test.asp> [<https://perma.cc/T8H8-W2WA>] (last updated July 31, 2023) [hereinafter Reiff, *Howey Test Definition*].

⁴⁹¹ See *SEC v. Ripple Labs, Inc.*, No. 1:20-CV-10832, 2023 U.S. Dist. LEXIS 120486 (S.D.N.Y. July 13, 2023).

⁴⁹² Reiff, *Howey Test Definition*, *supra* note 490.

is commendable. The RFIA, on the other hand, has excellent proposals for taxation and consumer protections.

[152] The IRS treats cryptocurrencies as “property” for federal tax purposes, and transactions involving cryptocurrency are therefore subject to capital gains and losses.⁴⁹³ The value of any cryptocurrency earned from mining is includible in a taxpayer’s gross income when the cryptocurrency is received, and the miner gets that amount as basis in their cryptocurrencies.⁴⁹⁴ It is still unknown whether cryptocurrency earned from staking rewards is includible in a taxpayer’s gross income when they receive it or whether it is includible only when the taxpayer sells or disposes of the staking rewards.

[153] I believe Congress should create a joint self-regulatory agency with the SEC and the CFTC and give the new agency original jurisdiction over all cryptocurrency activities. A new agency comprised of experts from the CFTC and the SEC would provide a one-stop agency that could issue uniform rules, regulations, and guidance to investors and developers in the cryptocurrency realm. This paper endorses the FIT Act’s approach in providing a qualitative and quantitative inquiry into whether a digital asset is regulated by the SEC or the CFTC, and endorses the proof of reserve and taxation proposals set forth in the RFIA. I believe Congress should provide non-recognition events when cryptocurrencies are used to pay for goods or services so cryptocurrencies are treated more like traditional currencies. Further, I believe Congress should adopt a taxation scheme whereby staking rewards are includible in gross income only when the asset is sold or disposed of. And lastly, Congress should permit cryptocurrency nodes and traders to take the same deductions and make the same elections currently available for securities and commodities activities.

⁴⁹³ I.R.S. Notice 2014-21, 2014-1 C.B. 938.

⁴⁹⁴ *Id.*