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The Inconsistent Tax Treatment of Cryptocurrency and the Challenges of Cross-Border Reporting

by Haben Isaias Tewelde

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The Inconsistent Tax Treatment of Cryptocurrency And the Challenges of Cross-Border Reporting

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the OECD and tax

authorities worldwide

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have addressed the taxation of cryptocurrency in unique and often conflicting ways, and

he considers the challenges of establishing and coordinating an effective exchange of information and enforcement of international cryptocurrency taxation stemming from the technologies' sui generis nature and its potential to disrupt international monetary and financial systems.

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Table of Contents

I.	Cryptocurrency Basics	1351
	A. Fundamental Crypto Tech	1351
	B. Common Crypto Transactions	1351
	C. Crypto Exchanges	1353
II.	Crypto Characterizations	1354
	A. U.S. Definitions	1355
	B. International Definitions	1355
III.	Taxing Global Transactions	1356
	A. U.S. Reporting and Enforcement	1357
	B. The OECD: CRS and CARF	1359
	C. Competing Policies	1362
IV.	Conflicts and Burdens	1366
	A. Legal Disharmony	1366

	B. Taxable Event Conflicts	1367
	C. Information Reporting Difficulties.	1367
	D. Lack of Centralized Control	1369
V.	Summary and Solutions	1369
VI.	Conclusion	1373

Bitcoin and other cryptocurrencies have come a long way from their seemingly insidious dark web exchanges on the Silk Road in the early 2000s. As of April, the most popularly tracked cryptocurrencies reached a market capitalization of nearly \$2 trillion, a roughly \$276.4 billion increase in just two months.¹ The White House claims the overall market cap on digital assets, including cryptocurrencies, surpassed \$3 trillion in November 2021.² Toward the end of 2021, there were approximately 68 million crypto wallet holders in the United States and more than 108 million worldwide; these numbers have been increasing exponentially.³ The U.S. Treasury estimates that the U.S. overall tax gap will grow from a current projection of \$600 billion annually to an astounding \$7 trillion over the next decade, with cryptocurrencies playing an increasingly central role, if extraordinary reporting and enforcement measures are not taken.⁴ The Joint Committee on Taxation estimates that closing the crypto-tax gap could raise federal revenue by \$28 billion.⁵ The collection of cryptocurrency

¹CoinMarketCap, "All Cryptocurrencies" (last accessed Apr. 10, 2022).

²White House, "Fact Sheet: President Biden to Sign Executive Order on Ensuring Responsible Development of Digital Assets" (Mar. 9, 2022).

³Denise Hintzke et al., "Tax Reporting in the Age of Cryptocurrency," Deloitte (last accessed Aug. 20, 2022).

⁴Natasha Sarin, "The Substantial Revenue-Raising Potential of Tax Compliance Efforts," U.S. Department of the Treasury (Oct. 29, 2021); Laura Davison, "Crypto Investors Are Likely Paying Less Than Half the Taxes They Owe," Bloomberg, May 11, 2022.

[°]Kate Dore, "Senate Infrastructure Bill Cracks Down on Crypto Tax Reporting," CNBC, Aug. 3, 2021.

transactional data to assist in closing the tax gap has been declared a focus of Congress's recent fiscal policy discussions.⁶ It is not surprising that tax authorities worldwide have been scrambling to effectively tap into this growing tax base. Designing an international reporting and exchange of information framework for cryptocurrencies is a priority of the G-20 Finance Ministers and Central Bank Governors as highlighted in their 2022 agenda for the Indonesian G-20 presidency.⁷ However, the underlying technology that makes cryptocurrencies possible is amorphous and dynamic. This has caused a lack of international consensus on how to define cryptocurrencies for tax purposes. The endeavor to characterize cryptocurrencies and the lack of an internationally agreed-upon standard definition has caused, and will continue to cause, issues with the reporting and exchange of information necessary for authorities to tax and audit quasianonymous, cross-border cryptocurrency transactions. This article explores these foreseeable problems and offers potential solutions.

In 2008 Satoshi Nakamoto, the anonymous creator of the first cryptocurrency, bitcoin, published a white paper that alluded to the notion that Nakamoto's decision to create bitcoin stemmed from an unsatisfied market need, partly caused by the financial failures of traditional, centralized monetary systems.⁸ The 2008 housing market crash and the centralized response appeared to reveal a highhanded economic system in which central authorities worked closely with central banks to create an environment wherein losses of financial institutions deemed too big to fail were socialized, but gains remained privatized. The deficiencies that were unable to prevent the Great Recession (such as the lack of central regulatory authorities' insight and control over private financial dealings related to derivatives), the proliferation of access to technology (the internet, computer networking, cryptography, and blockchain), and the increased difficulties for individuals to access traditional money markets have, in part, contributed to a demand for a new, seemingly democratized money market in which cryptocurrencies have flourished. These ideals and the lack of central regulatory authorities' insight into most cryptocurrency market transactional data ostensibly an intended feature of cryptocurrency's technical nature – are increasingly important issues related to tax authorities' ability to fulfill their responsibilities.

Section I of this article leads with a primer on the background of cryptocurrency technology and related transactions. Section II is intended to help readers understand how tax authorities worldwide have chosen to unilaterally — and at times conflictingly — define and characterize cryptocurrencies and crypto transactions to enforce their unique cryptocurrency tax laws.

Section III of this article is intended to provide the reader with an understanding of how countries worldwide have set up their cryptocurrency tax regimes, including their reporting and exchange of information requirements. It takes a deep dive into the OECD's efforts to incorporate cryptocurrency transactions into its common reporting standard (CRS) by developing a cryptoasset reporting framework (CARF). Section III concludes with a worldwide overview of several differing cryptocurrency taxation regimes.

Section IV examines how the unique aspect of cryptocurrency technologies, the jurisdiction-byjurisdiction characterization of cryptocurrency transactions, and the differing national regimes and competing economic interests will create challenges to establishing the consensus and coordination necessary for an effective exchange of information and enforcement of international cryptocurrency taxation.

^o Joint Committee on Taxation, "Estimated Revenue Effects of the Provisions in Division H of an Amendment in the Nature of a Substitute to H.R. 3684: Fiscal Years 2022-2031," JCX-33-21 (Aug. 2, 2021); Andreas Thiemann, "Cryptocurrencies: An Empirical View From a Tax Perspective," JRC Working Paper on Taxation and Structural Reforms No. 12/2021 (Aug. 2, 2021) (projecting tax revenue of €850 million in Europe from closing the bitcoin tax gap in 2020 alone); Mark P. Keightley and Andrew P. Scott, "Cryptocurrency Transfers and Data Collection," Congressional Research Service IF11910 (Aug. 25, 2021) ("In an April 13, 2021, Senate Committee on Finance hearing [IRS] Commission[er Charles] Rettig raised the possibility that the tax gap may now be closer to \$1 trillion per year once the rise in popularity of crypto, foreign source income, taxable illegal income, and more recent estimates regarding high-income taxpayers are accounted for.").

[']G-20, "G20 Chair's Summary: Third G20 Finance Ministers and Central Bank Governors Meeting" (July 16, 2022).

⁸Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System" (2008).

Section V summarizes the issues outlined in Section IV and provides suggestions and rationales for potential solutions.

I. Cryptocurrency Basics

A. Fundamental Crypto Tech

Nakamoto's 2008 white paper introduced bitcoin as a "system for electronic transactions without relying on trust," in which a peer-to-peer network would use so-called mining clients to perform "work" that creates a "coin" to verify the transfer of ownership of bitcoins.9 Independent third parties that perform this cryptocurrency transfer and verification work - usually referred to as miners – use cryptographic processes to solve encrypted hash blocks on a chain of blocks. This mining process is why people refer to currency-esque tokens developed by using this encryption-based process as *crypto*currency.¹⁰ Bitcoin has remained the dominant cryptocurrency since its creation. The primary difference among cryptocurrencies is the encryption algorithm and protocols used in their creation. Bitcoin's anonymous creator automated and forfeited control over the major changes to bitcoin's protocols, making it unique and less security- or stock-like when compared with other cryptocurrencies for which a person or group has control and the ability to make changes to major cryptocurrency protocols, such as its supply.

To understand the potential for taxation and enforcement of crypto transactions, it is essential to understand the underlying technologies and processes that make crypto transactions viable. Cryptocurrencies leverage computer networking, the internet, open-source concepts, and cryptography to build the trust and assurances that people require to transact economically. Unlike traditional currencies, cryptocurrencies establish this through networks of consensusbased cryptography and distributed ledger technology (for example, blockchain),¹¹ not centralized financial institutional processes that have traditionally been more easily trackable. Tax authorities can place the onus on intermediaries (such as stock market order books and banks) to track, report, and control traditional transactions. The security of encryption, coupled with a verifiable blockchain ledger, allows for the trust and consensus that make cryptocurrencies capable of holding and accruing value and for crypto transactions to be feasible.

B. Common Crypto Transactions

The most common crypto transactions that may be taxable events include when:

- cryptocurrencies are sold for cash;
- cryptocurrencies are used to purchase a good or service;
- cryptocurrencies are exchanged for cryptocurrencies;
- remuneration is paid in cryptocurrency;
- cryptocurrencies are mined and similar work is performed; and
- cryptocurrencies are acquired via an "airdrop" or "hard fork."¹²

The OECD has outlined four key points in a cryptocurrency's life cycle that have been seen by tax authorities as potentially taxable events:

- the creation of a cryptocurrency;
- the storage and transfer of cryptocurrencies;
- the exchange of cryptocurrencies; and
- the evolution of a cryptocurrency.¹³

⁹Id.

¹⁰ Anthony Serapiglia, Constance Serapiglia, and Joshua McIntyre, "Cryptocurrencies: Core Information Technology and Information System Fundamentals Enabling Currency Without Borders," 13(3) *Info.* Sys. Educ. J. 43-52 (2015).

¹¹World Bank, "Distributed Ledger Technology (DLT) and Blockchain," FinTech Note No. 1 (2017) (defining DLT as "a novel and fast-evolving approach to recording and sharing data across multiple data stores (ledgers), which each have the exact same data records and are collectively maintained and controlled by a distributed network of computer servers, which are called nodes"); Reshma Patra, "Blockchain 101: What Is Blockchain?" Medium, Aug. 22, 2018 ("Blockchains employ cryptographic and algorithmic methods to record and synchronize data across a network in an immutable manner.").

¹²Airdrops are essentially a gift transaction of a cryptocurrency, Androps are essentially a gin transaction of a typicuriency, usually as a promotion. Brian Nibley, "Different Types of Crypto Airdrops and How to Find Them," SoFi Learn, Apr. 5, 2021; see also Jake Frankenfield, "Hard Fork (Blockchain)," Investopedia (last updated May 25, 2022) (A hard fork, "as it relates to blockchain technology, is a radical change to a network's protocol that makes previously invalid blocks and transactions valid, or vice versa. A hard fork requires all nodes or users to upgrade to the latest version of the protocol software," converting the cryptocurrency into something relatively new and potentially altering its value.).

¹³OECD, "Taxing Virtual Currencies: An Overview of Tax Treatments and Emerging Tax Policy Issues" (Oct. 2020).

Each potentially taxable event involves either the transfer of value or points at which value accrual might occur.

The creation of a cryptocurrency usually takes place as an airdrop or an initial token offering, or by mining or forging.¹⁴ Initial token offerings are akin to initial public offerings and have been seen as subjectable to similar control by authorities such as the U.S. Securities and Exchange Commission.¹⁵ Mining is potentially taxable because a person receives income value for a proof-of-work¹⁶ service necessary for validating crypto transactions on a blockchain. Similarly, a forger can serve this purpose by staking a specified amount of their cryptocurrencies so as to be selected to provide the required validation services, known as proof of stake,¹⁷ and may also derive taxable income from it. Forgers stand to lose their staked interest should they make errors while providing validation services. A forger's loss of value in their staked cryptocurrency may also cause a taxable event unless a tax authority

¹⁵Ed Dartley et al., "Initial Coin Offerings: Key Considerations You Absolutely, Positively Need to Know About Before Launching an ICO," K&L Gates, Oct. 26, 2017 (citing the Commodity Futures and Exchange Commission, the IRS, and the Financial Crimes Enforcement Network as other agencies also staking a claim over initial coin offerings regulations).

¹⁶ Luke Conway, "Proof-of-Work vs. Proof-of-Stake: Which Is Better?" Blockworks, Feb. 18, 2022; *see also* Jake Frankenfield, "Proof of Work (PoW)," Investopedia (last updated May 2, 2022) (Proof of work is "a decentralized consensus mechanism that requires members of a network to expend effort solving an arbitrary mathematical puzzle to prevent anybody from gaming the system. Proof of work is used widely in cryptocurrency mining, for validating transactions and mining new tokens. Due to proof of work, Bitcoin and other cryptocurrency transactions can be processed peer-to-peer in a secure manner without the need for a trusted third party. Proof of work at scale requires huge amounts of energy, which only increases as more miners join the network."). disallows the loss because of the holder's breach of an agreement.

Cryptocurrencies are usually held in virtual wallets, of which there are four major types: hot custodial wallet, hot noncustodial wallet, cold/ offline hardware wallet, and cold paper wallet. Third parties that provide a digital wallet service might be taxed for any income derived from that service. Reportable and taxable events may take place while cryptocurrencies sit in a wallet, including the accrual of value and changes to a cryptocurrency's protocol.

Cryptocurrency holders can trade virtual currencies for other assets, either fiat currency or other cryptoassets, on cryptocurrency exchanges in either decentralized (for example, Uniswap) or centralized (for example, Coinbase or Kraken) environments. Most cryptocurrency exchange providers act in a custodial capacity, and they may be taxed on the income they receive for providing custodial services related to the cryptocurrency exchange transactions they facilitate. Many tax authorities have seen these intermediaries as a critical source of reporting information on cryptocurrency exchange transactions. Cryptocurrency exchanges have been seen as a crucial choke point at which taxpayers and tax authorities can apply old, centralized models for obtaining data to assess and audit taxable cryptocurrency events. Overthe-counter brokering of off-market crypto transactions for items of value is similarly reportable and may constitute a taxable event. However, noncustodial crypto transactions in decentralized, peer-to-peer environments can be conducted without a third-party intermediary. Therefore, relying on the old models and centralized intermediaries (for example, banks and brokers) for reporting is not an obvious option for many cryptocurrency transactions.

Another fundamental aspect of cryptocurrency technology is the lack of centralized and hierarchical control.¹⁸ Most cryptocurrencies — bitcoin in particular — have adopted a mostly decentralized autonomous organizational form that allows for cryptocurrencies' widely publicized democratic

¹⁴Henry Chikwem, "What Is Crypto Forging?" OX Currencies, Nov. 18, 2021. Crypto mining occurs whenever a person (or group), as part of a cryptocurrency network, solves a mathematical equation as part of a verification process in a transaction and usually for financial gain (proofof-work). Crypto forging is the process of creating new blocks in the blockchain using the proof-of-stake algorithm in exchange for a reward in the form of new cryptocurrency and commission fees. (See *infra* notes 16 and 17 for more information.)

¹⁷ Conway, *supra* note 16; *see also* Jake Frankenfield, "Proof-of-Stake (PoS)," Investopedia (last updated June 9, 2022) (With proof of stake, "cryptocurrency owners validate block transactions based on the number of coins a validator stakes." Proof of stake was created as an alternative to proof of work, "the original consensus mechanism used to validate a blockchain and add new blocks." Proof-of-work mechanisms "require miners to solve cryptographic puzzles," but proof-of-stake mechanisms "require validators to simply hold and stake tokens." Proof of stake "is seen as less risky in terms of the potential for an attack on the network, as it structures compensation in a way that makes an attack less advantageous. The next block writer on the blockchain is selected at random, with higher odds being assigned to nodes with larger stake positions.").

¹⁸ Nathan Reiff, "Decentralized Autonomous Organization (DAO)," Investopedia (last updated July 11, 2022).

features. Essentially, decentralized autonomous organizations are publicly transparent entities with no central leadership, but rather inner workings dictated by the community (that is, computers, networks, and nodes) and preset protocols.¹⁹ Less like currencies and securities, for which governments and corporate structures, respectively, would serve as a point of centralized control and accountability, cryptocurrency technology allows for its community to selfregulate and control its protocols and functions.²⁰ This makes crypto transactions harder, and potentially impossible, for governments to completely control and regulate.

C. Crypto Exchanges

Crypto transactions can be conducted in either a decentralized exchange (DEX) or centralized exchange (CEX) environment. Decentralized finance (DeFi) is a term that refers to an unregulated, open, and global financial system that allows the cryptocurrency holder to access international markets at any time without any centralized controls or authorities who can block payments or access. In a DeFi network, the trust and security traditionally provided by centralized intermediaries is usually ensured through smart contract technology. In a centralized finance (CeFi) environment, all the information related to crypto transactions is routed through a central authority that acts, and can be regulated, like a bank during a traditional currency transaction.²¹ DeFi crypto transactions can be made anonymously and without reporting, and have increased in popularity along with tax authorities' implementation of reporting requirements. Conversely, with CeFi reporting, compliance and tracking are more possible and identifiable through know-your-client (KYC) obligations. In a CeFi network – and with the expenditure of time and resources - "on-ramps" and "off-ramps" (the exchange points of cryptocurrencies and fiat currencies) are more easily accessible for tax authorities to audit and

trace. Tax authorities that have provided laws and guidance on the taxability of cryptocurrency transactions, including the United States, seem to presuppose that the crypto transactions are conducted in a CeFi environment with an emphasis on the broker or cryptocurrency transaction service providers' reporting or disclosure obligations, so as to provide tax authorities with the necessary insight into taxrelated aspects of these services.

Over 20 years ago, tracking and reporting taxpayers' basis in their securities was solved through choke points in centralized money market reporting mechanisms and safeguards. However, self-custody, peer-to-peer exchanges, and decentralized markets create a unique environment for tracking and reporting crypto transactions, requiring new ideas of controllability and control mechanisms for tax purposes. A centralized repository for reporting basis might be a viable means of achieving this goal for law-abiding taxpayers. DeFi networks pose unique challenges because a DeFi network creator likely does not or cannot know who its users are; this is an even more complicated issue when transactions are conducted through automated market makers in a liquidity pool with no central party to issue documentation. Transactions on a DeFi network have little to no accountability controls by third parties. In many instances, the interested parties to the transaction are not even aware of the identity of the person or entity with whom they are transacting because the use of smart contracts does not require even this basic level of personal accountability.

No DeFi participants engaging in activities within the SEC regulatory jurisdiction have registered with the SEC despite its encouragement; the same disconnect likely occurs between DeFi participants and tax authorities.²² Two key structural aspects make it potentially impossible for tax authorities to enforce tax reporting laws and exchange of information regimes when dealing with crypto transactions in a DeFi or DEX network: (1) the lack of

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¹⁹*Id.*

²⁰Id.

²¹Ivan Cryptoslav, "Centralized vs Decentralized Exchanges," CoinMarketCap Alexandria (2022); Apoorva Bellapu, "DeFi vs. CeFi: Exploring the Differences," Analytics Insight, Oct. 23, 2021.

²²Caroline A. Crenshaw, "Statement on DeFi Risks, Regulations, and Opportunities," SEC, at footnote 12 (Nov. 9, 2021).

transparency, and (2) pseudonymity.²³ Despite DeFi being a sector with over \$187 billion in trading volume on the top 10 DEX trading networks as of December 2021, the U.S. authorities have yet to provide any insights, regulations, or guidance on the taxation and reporting of DeFi transactions.²⁴

1. Lending, Pooling, Mining

Cryptocurrency holders in a DeFi network have access to lenders willing to hold their cryptocurrencies as collateral in exchange for fiat currency.²⁵ DeFi lending allows a cryptocurrency holder to lend their cryptocurrency through a given protocol (for example, Aave²⁶) and receive interest payments in the form of cryptocurrencies from borrowers who are either known or unknown to the lender.²⁷ DeFi staking related to financing should not be confused with staking that is a part of a proof-of-stake consensus mechanism; although the two are similar and often described simply as staking, they are not the same. Staking in a proof-of-stake context (that is, forging) is more akin to mining cryptocurrencies as part of a proof-of-work mechanism as described in Section I.B and produces remuneration or rewards, but DeFi staking is more akin to accruing interest on a loan for a staked interest.²⁸ Interest payments on loans related to DeFi staking would presumably be taxable as income. However, most tax authorities, including the IRS, have not released any official guidance on staking rewards and how they should be reported and taxed.

II. Crypto Characterizations

Although most countries consider cryptocurrencies to be a form of property for tax purposes, they nonetheless employ differing categorizations and definitions. The most common approach taken by tax authorities, including the United States and most OECD countries, is to categorize cryptocurrencies as intangible property or assets.³⁰ Other tax authorities have classified them as a commodity or financial instrument and a minority of tax authorities have classified cryptocurrencies as a foreign fiat currency or even as a "digital representation of value."³¹

A critical challenge for the taxation of crossborder cryptocurrency transactions is the conflicting classification of cryptocurrencies among various jurisdictions. There is conflict stemming from countries' unilateral decisions to

²⁹Cryptopedia, "What Are Liquidity Pools?" (last updated Nov. 30, 2021).

Cryptocurrency holders in a DeFi network may choose to put their cryptocurrency to work by engaging in liquidity pooling activities. Investors place their cryptocurrency into a pool to create liquidity to facilitate financial activities and receive a pool token representing the investor's cryptocurrency interest in the pool.²⁹ The exchange of the cryptocurrency for the pool token may be considered a taxable event or a nontaxable contribution. Another taxable event could be when the liquidity-providing investor earns commissions or interest on their investments. At the same time, third parties may transact via the liquidity pool, which would seem to give rise to additional possible taxable events and income.

²³*Id.* at Section V; Igor Makarov and Antoinette Schoar, "Cryptocurrencies and Decentralized Finance (DeFi)," Brookings Papers on Economic Activity, at 5, 27-28 (Mar. 11, 2022).

²⁴Crenshaw, *supra* note 22; Makarov and Schoar, *supra* note 23; "DeFi Market Size Soared 335 Percent to \$85 Billion," Marketforces Africa, Sept. 28, 2021.

²⁵Taylor Locke, "'People Have Been Participating Without Understanding the Risks': Here's What to Know About Cryptocurrency-Based DeFi," CNBC, June 18, 2021.

²⁶Rupam Roy, "What Is Aave (AAVE) Crypto and Why Is It Rising?" Kalkin Media (last updated Mar. 24, 2022) ("Aave is a decentralized finance (DeFi) protocol that enables users to lend or borrow crypto through its platform. For instance, lenders can receive cryptos or earn interests from their deposits through specially built liquidity pools. Also, borrowers can use their digital assets as collateral to take a flash loan using liquidity.").

⁷Locke*, supra* note 25.

²⁸Id.

³⁰The International Financial Reporting Interpretations Committee notes that virtual currencies meet the definition of an intangible asset under International Accounting Standard 38, which defines an intangible asset as "an identifiable non-monetary asset without physical substance." According to the committee, a virtual currency fits the definition of an intangible asset because "(a) it is capable of being separated from the holder and sold or transferred individually; and (b) it does not give the holder a right to receive a fixed or determinable number of units of currency." IFRIC Update — July 2019, at 13.

³¹OECD, "Taxing Virtual Currencies," *supra* note 13.

classify cryptocurrencies as either currencies, commodities, financial instruments, or intangible property.³²

A. U.S. Definitions

In the United States, the IRS has defined cryptocurrencies, or what it describes as "virtual currency," as "a digital representation of value ... that functions as a unit of account, a store of value, and a medium of exchange."33 The definition of digital asset that the 2021 Infrastructure Investment and Jobs Act (IIJA) created and inserted within IRC section 6050I's definition of cash describes digital assets as items that represent value and use cryptographic technology on a ledger or any similar technology as specified by the treasury secretary.³⁴ Generally, the United States characterizes virtual currency as property and treats crypto transactions as property transactions for tax purposes. If a taxpayer spends or invests in cryptocurrencies, the cryptocurrency is treated as property for federal tax purposes.³⁵ Therefore, depending on the taxpayer's circumstances, their cryptocurrency — as it relates to taxable transactions - can be classified as business property, investment property, or personal property, each of which potentially triggers different tax consequences on the exchange of cryptocurrency for cryptocurrency or other property.³⁶ All gains or losses realized each and every time cryptocurrencies are used to purchase goods or services should be recognized as taxable.³⁷ This stance could create tremendous burdens on taxpayers and authorities in light of the increasing popularity of cryptocurrency transactions and the potential use of cryptocurrencies in microtransactions.

³⁷Id.

The SEC has successfully shown through litigation that some cryptocurrency products satisfy the *Howey* test, proving that they are tradable securities, and imposed approximately \$2.35 billion in monetary penalties against digital asset participants through the end of 2021.³⁸ To help address the confusion over what cryptocurrencies are in the United States, Sen. Cynthia Lummis, R-Wyo., and Sen. Kirsten Gillibrand, D-N.Y., re-introduced the Responsible Financial Innovation Act (RFIA), which according to Sen. Gillibrand, acknowledges the lack of a "common set of definitions for digital assets today" and seeks to create clear ones.³⁹ This legislation is discussed further in Section III.A of this article.

B. International Definitions

Most countries define cryptocurrencies as:

- an intangible asset other than goodwill;⁴⁰
- a financial instrument or asset;⁴¹
- a commodity or virtual commodity;⁴² or
 currency.⁴³

Remarkably, some jurisdictions have not published any stance or guidance on the classification of cryptocurrencies.⁴⁴

The OECD initially defined cryptoassets as digital financial assets that use cryptography and rely on distributed ledger technology.⁴⁵ However, on March 22 the OECD published a public

⁴¹*Id.* (including Argentina, Brazil, Croatia, Denmark, Israel, Japan, Slovakia, and South Africa).

³²Scott A. Wiseman, "Property or Currency? The Tax Dilemma Behind Bitcoin," 2016(2) *Utah L. Rev.* (2016); Aleksandra Bal, "Chapter 14: How to Tax Bitcoin?" in *Handbook of Digital Currency* 267-282 (2015); Asheer Jaywant Ram, "Taxation of the Bitcoin: Initial Insights Through a Correspondence Analysis," 26(2) *Meditari Accountancy Research* 214 (2018).

³³IRS, "Frequently Asked Questions on Virtual Currency Transactions" (last reviewed or updated Mar. 23, 2022).

³⁴Infrastructure Investment and Jobs Act (P.L. 117-58).

³⁵IRS Notice 2014-21, 2014-16 IRB 938.

³⁶Id.

³⁸ See Joel Seligman, "The Lummis-Gillibrand Responsible Financial Innovation Act," The CLS Blue Sky Blog (June 27, 2022) ("Through the end of 2021, the SEC had brought 97 crypto-related litigations and administrative actions."). See also SEC v. W.J. Howey Co., 328 U.S. 293 (the Howey test defined securities by attempting to determine if a transaction is an "investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others").

³⁹S. 4356 (2022); "Lummis, Gillibrand Introduce Landmark Legislation To Create Regulatory Framework For Digital Assets" (June 7, 2022).

⁴⁰OECD, "Taxing Virtual Currencies," *supra* note 13, at 23 (including Australia, France, Chile, the Czech Republic, Luxembourg, Nigeria, Spain, Sweden, Switzerland, and the United Kingdom).

⁴²*Id.* (including Austria, Canada, China, and Indonesia).

⁴³*Id.* (including Belgium, Ivory Coast, Italy, and Poland).

⁴⁴David Rotfleisch, "Canada: Cryptocurrency Tax: OECD's 2021 Cryptocurrency Reporting Framework," Mondaq, July 6, 2021 (Denmark, Italy, and Costa Rica).

⁴⁵Thiemann, *supra* note 6, at 3.

consultation document related to its Crypto-Asset Reporting Framework (CARF) initiative saying:

The proposed definition of Crypto-Assets under the CARF focuses on the use of cryptographically secured distributed ledger technology, as this is a distinguishing factor underpinning the creation, holding and transferability of Crypto-Assets. The definition also includes a reference to "similar technology" to ensure it can include new asset classes that emerge in the future and that operate in a functionally similar manner to Crypto-Assets. The definition of Crypto-Assets thereby targets those assets that can be held and transferred in a decentralised manner, without the intervention of traditional financial intermediaries, including stablecoins, derivatives issued in the form of a Crypto-Asset and certain non-fungible tokens (NFTs).⁴⁶

According to the OECD, the proposed CARF definition above is meant to ensure that all assets covered under the OECD's new, proposed tax reporting framework are also within the scope of the definition and recommendations from the G-7's Financial Action Task Force (FATF).⁴⁷ This was meant to ensure that the CARF's proposed due diligence requirements can be built upon existing anti-money-laundering and KYC obligations.⁴⁸

III. Taxing Global Transactions

Tax authorities are limited to enforcing their reporting regimes upon exchanges and cryptocurrency service providers within their jurisdiction. Country-by-country, unilateral reporting regimes are based on differing — and sometimes conflicting — definitions of cryptocurrencies and reportable transactions. Even if information is freely exchanged between countries, it might be incomplete or overinclusive. This issue could be resolved through international cooperation and coordination, such as has been seen with the OECD's common reporting standard (CRS), discussed later in this section and from which the CARF is based. For cryptocurrency taxation to be effective, it is likely necessary for nations to find a common ground to promote a uniform mechanism to define cryptocurrency transactions and enforce reporting from exchanges, other cryptocurrency service providers, and transaction facilitators. This could allow for the implementation of a legal framework that transmits this information efficiently among participating nations. Otherwise, taxpayers will see ways to take advantage of the disharmony among tax authorities' regulatory frameworks and create tax havens to shield cryptocurrency holders' transactions and income.49

Several countries either have banned crypto transactions outright or have placed significant legal restrictions on their citizens' abilities to engage in crypto transactions that would be legal elsewhere.⁵⁰ These inconsistent treatments may create additional gaps in reporting and may impact tax authorities' ability to effectively exchange information and enforce their own tax laws related to crypto transactions.⁵¹

The fundamental reason for these restrictions is governments' loss of control over their citizen's monetary and financial interactions as the use of cryptocurrency-supported transactions proliferates. This lack of control is a threat to citizens because they may not be sheltered from crime and fraud by the same regulatory protections provided by governments in traditional financial environments. This lack of control also threatens governments' ability to access revenue sources. Governments may view

⁴⁶OECD, "Crypto-Asset Reporting Framework and Amendments to the Common Reporting Standard — Public Consultation Document," at 5 (Mar. 22, 2022).

⁴⁷*Id.*

⁴⁸Id.

⁴⁹OECD, "OECD Work on Taxation," at 28 (2021).

⁵⁰OECD, "Taxing Virtual Currencies," *supra* note 13, at 17-18. (Countries that have significantly restricted crypto transactions include Bangladesh, Bolivia, Iraq, Lesotho, Morocco, Nepal, North Macedonia, Lesotho, Russia, and Saudi Arabia. Countries that have significantly restricted the financial sector from engaging with crypto transactions include Cambodia, China, Colombia, the Dominican Republic, Iran, Jordan, Kuwait, Lithuania, Macau, Qatar, and Thailand. Ecuador and Indonesia have significantly restricted the use of cryptocurrencies as means of payment. China has banned crypto transactions on commercial trading platforms; China and Korea have banned initial coin offerings.)

⁵¹OECD public consultation document, *supra* note 46, at para. 17.

cryptocurrency as unwelcome competition to their central banks' control over the value of their citizens' wealth stored in fiat currency through inflationary intervention. For example, if anyone wants to set up a global borrowing and lending marketplace or exchange in the current financial system, they need to go to all jurisdictions to get lending licenses to operate it. That may be viewed as a barrier and be susceptible to corruption and bribery. With DeFi and DEX networks, any person can interface with them anywhere, and there is no regulating central entity. Even if a decentralized network was taken down, the smart contracts on which the transactions were based would exist on the blockchain. Moreover, crypto transactions can compete with traditional, private institutions such as credit card networks and processing systems by obviating their purpose. Coinbase, the largest U.S.-based crypto exchange platform, claims that its own mission – "to increase economic freedom in the world" matches the ideals of a democratized money market.⁵² Notably, Coinbase has both centralized and decentralized features, meaning that even with a court or government order, Coinbase cannot access some keys from an architectural standpoint. In response, 105 countries including the United States, president of the FATF - representing about 95 percent of global GDP have been exploring the use of central bank digital currencies (CBDCs), with 10 countries having fully launched a digital currency.⁵³ CBDCs would be different from digitalized representations of fiat currencies because they would allow for unprecedented regulatory protections from crime and fraud. CBDCs would allow central banks and by extension, governments - to more directly interact with taxpayers, control monetary systems, and track or surveil all transactions

conducted with the CBDCs they issue, without the use or need of intermediaries.

A. U.S. Reporting and Enforcement

Many crypto transactions in the United States are conducted on crypto exchanges such as Binance and Coinbase. These mainstream exchanges, which have submitted to licensure regimes, facilitate taxation upon themselves and their customers and are regulated much like money transmitters (such as Western Union, MoneyGram, and PayPal).⁵⁴ However, considering the technological and fundamental distinctions between fiat currencies and cryptocurrencies, consistent guidance is needed when establishing the reporting and taxing requirements for cryptocurrency transactions.

Over the past few years, the U.S. tax authorities have attempted to conduct crypto-tax reporting audits and enforcement through the issuance of John Doe summonses to obtain information necessary to discover and identify taxable crypto transactions and information about unnamed taxpayers from third parties.⁵⁵ As mentioned, IRS guidance on the taxation of crypto transactions has been outlined in Notice 2014-21, stating that crypto transactions are subject to the IRC's treatment of property.⁵⁶

The United States enacted the IIJA in November 2021 in an effort to more comprehensively establish and clarify cryptocurrency tax reporting requirements and obligations. The legislation brought cryptocurrencies — and other items defined as digital assets — into the scope of IRC sections 6045 (returns of brokers) and 6050I (returns relating to cash received in a trade or business).⁵⁷ The IIJA's cryptocurrency provision brought cryptocurrency transactions within the scope of Form 1099 reporting.⁵⁸ It requires brokers (any

⁵²Coinbase, "Our Mission Is to Increase Economic Freedom in the World" (last accessed Aug. 31, 2022).

⁵³ U.S. Department of the Treasury, "Fact Sheet: Framework for International Engagement on Digital Assets" (July 7, 2022); *see also* Atlantic Council, "Central Bank Digital Currency Tracker" (last accessed Aug. 31, 2022); *see also* Seligman, *supra* note 38 ("In January 2022, the Federal Reserve began what it anticipated would be a year-long discussion with stakeholders of whether it should create a Central Bank Digital Currency (CBDC), in part because China sought to do so as it banned most cryptocurrencies. There were concerns articulated in the Biden executive order whether the lack of a CBDC would hinder the United States in international payment system transactions.").

⁵⁴Keightley and Scott, *supra* note 6.

⁵⁵Thiemann, *supra* note 6, at 12.

⁵⁶IRS Notice 2014-21, *supra* note 35; Keightley and Scott, *supra* note 6.

⁵⁷IIJA, *supra* note 34.

⁵⁸ Justin Woodward, "Common Reporting Standards — The OECD and Crypto Exchanges' Responsibilities," TaxBit, June 29, 2020 (Form 1099-B for capital asset dispositions; Form 1099-INT for interest payments; Form 1099-DIV for dividends; Form 1099-MISC for payments; and Form 1099-K for goods and service providers selling on a third-party platform).

person offering assistance with cryptocurrency or digital asset transfers, including miners, validators, stakeholders, and DeFi/DEX operators) to furnish transfer statements, and it categorizes cryptocurrencies as cash for Form 8300 reporting if a business receives cryptocurrency with a value of \$10,000 or more.⁵⁹

Some crypto proponents have complained that the IIJA's broadened definition of broker discourages engagement in crypto transactions because it makes it nearly impossible to mine or validate cryptocurrency legally and that the bill defeats the purpose of decentralized cryptocurrencies and DeFi/DEX networks. Sen. Lummis describes RFIA as a "bill to fully integrate digital assets into our financial system" and into the United States' existing tax and banking laws.⁶⁰

Sen. Lummis has personally invested in cryptocurrencies since 2013 and seeks to provide a framework for cryptocurrency taxation and to push for 100 percent hard-asset backed institutions to issue stablecoins, likely backed by the U.S. dollar through legislation.⁶¹

RFIA appears to seek the transfer of most regulatory control of cryptoassets to the Commodity Futures Trading Commission, essentially supplanting the SEC – which has been seen to have taken a more active role in regulating the use of cryptocurrencies in the financial market — as the main regulator of cryptoproducts. Title IV of RFIA states that the Commodity Futures Trading Commission "shall have exclusive jurisdiction over the regulation and all other activities of a registered digital asset exchange" and "exclusive jurisdiction over any agreement, contract, or transaction involving a contract of sale of a digital asset in interstate commerce," except that the SEC could continue periodic disclosure requirements for securities

within the meaning of Section 2(a)(l) of the 1933 Act and specified ancillary assets.⁶²

A key component and challenge to the IIJA's effectiveness, as discussed in later sections of this article, is the underlying KYC requirements it introduces for its broadened definition of broker.⁶³ According to now-retired IRS Criminal Investigation Deputy Chief James Robnett, speaking at a June 24 tax panel at New York University, beginning in 2023, exchangers and other transactors of digital assets will need to file Form 1099-DA on behalf of their customers; the form will be used to assist the IRS's increased reporting and taxing efforts.⁶⁴

On March 10 Congress approved President Biden's 2022 budget, which in part was meant to expand the information reporting requirements for brokers (including crypto exchanges and wallet providers) to include information on U.S. and specified foreign account owners, allowing for automatic information sharing with foreign tax jurisdictions in exchange for information on U.S. taxpayers transacting in crypto outside the United States.⁶⁵

However, the IIJA's and the Biden budget's restrictive effect on brokers appears to contradict the Biden administration's goals expressed in a March 9 executive order to foster U.S. leadership in, and development of, cryptocurrency markets. The executive order says that the United States would support the ongoing international work and would push for additional work to drive the development and implementation of holistic cryptocurrency transaction standards, cooperation and coordination, and information sharing.⁶⁶ The order tasked the U.S. Treasury Department with providing a report on the establishment of a framework for interagency international engagement to enhance the adoption of global principles and standards for

⁵⁹IIJA, *supra* note 34.

⁶⁰,"Bitcoin-Friendly Senator Reveals Details of Crypto Regulation Bill," PYMNTS, Mar. 11, 2022.

⁶¹See American Enterprise Institute, "A Conversation With Sen. Cynthia Lummis (R-WY): Regulation and the Future of Crypto Assets," YouTube (last accessed Aug. 31, 2022); CNBC, "Sen. Lummis on Crypto Oversight Bill, and Why Stablecoins Need to Be Backed by Hard Assets," YouTube (last accessed Aug. 31, 2022).

⁶²S. 4356, *supra* note 39; *see also* Seligman, *supra* note 38.

⁶³IIJA, *supra* note 34.

⁶⁴David van den Berg, "IRS Crafting Digital Asset Payment Reporting Form," Law360, June 24, 2022; "IRS Says Crypto Fraud Enforcement Outlook Is Positive & New Crypto Form 1099-DA," Marini and Associates, July 5, 2022.

⁶⁵Keightley and Scott, *supra* note 6; Office of Management and Budget, "Fiscal Year 2022 Budget of the U.S. Government" (2021).

⁶⁶President Biden, "Executive Order on Ensuring Responsible Development of Digital Assets" (Mar. 9, 2022).

how digital assets are used and transacted.⁶⁷ The order also tasked various other governmental agencies to present reports on their perspectives on the United States' overall desire to cooperate and collaborate internationally for regulatory controls over cross-border crypto transactions.⁶⁸

The executive order does not reference regulations for implementing the tax information reporting provisions of the IIJA or the 2022 budget; it does not lay out any positions that the White House wants its agencies to adopt, nor does it provide any directives on regulations. Nonetheless, the reports and frameworks promulgated by Treasury will likely spur additional guidance and regulations related to cryptocurrency tax reporting and exchange of information. Nellie Liang, Treasury undersecretary for domestic finance, explained that the administration's intention is to harness the potential benefits of cryptocurrencies while protecting the economy from cryptocurrencies' risks, which are presumably crime and fraud.⁶⁹ Undersecretary Liang's statement mirrors Sen. Lummis's promotion of stablecoins presumably backed by the U.S. dollar — as a preferable, less risky option.⁷⁰

Treasury's report, which was issued on July 7, emphasizes the concern of cryptocurrency's impact on the international monetary system and the use of CBDCs, likely for the reasons expressed in the first part of this section.⁷¹

B. The OECD: CRS and CARF

Without a cooperative agreement among tax authorities, there are limitations on their ability to impose reporting requirements on nonresidents to enforce their international tax laws. Further, tax authorities do not have information on transactions carried out through exchanges located abroad. These exchanges would not have any legal obligation to share information with central banks, tax authorities, or other public

⁷¹See Treasury fact sheet, *supra* note 53.

bodies without international agreements to impose those duties. These general challenges caused the G-20 to endorse the automatic exchange of information (AEOI) for international transactions. In 2014 the G-20 requested that the OECD create a "new single global standard," which resulted in the CRS.⁷² The CRS was designed to set standards for uniformly reporting, obtaining, and automatically exchanging financial information annually from and among the over 110 participating jurisdictions.⁷³ The CRS's attempt to increase tax authorities' insight into international transactions and strengthen audit capabilities is broken into four essential parts:

- providing a model competent authority agreement, providing the international legal framework for the automatic exchange of CRS information;⁷⁴
- the CRS;⁷⁵
- the commentaries on the competent authority agreement and the CRS;⁷⁶ and
- the CRS XML Schema User Guide.⁷⁷

On May 6, 2021, at CFE Tax Advisers Europe's 2021 Forum, the OECD announced its plans to expand cryptocurrency reporting and exchange of information obligations under the CRS.⁷⁸ Cryptocurrency and digital assets have since been increasingly integrated into the scope of CRS reporting.⁷⁹ This means trading platforms and crypto exchanges in CRS jurisdictions will be required to perform due diligence on accounts,

⁷⁵OECD, "Standard for Automatic Exchange of Financial Account Information in Tax Matters" (July 21, 2014).

⁶⁷Id.

⁶⁸Id.

⁶⁹Vice News, "Washington's Attempt to Rein In the Crypto Industry," YouTube (June 13, 2022).

⁷⁰Id.

⁷²Young Ran Kim, "Blockchain Initiatives for Tax Administration," University of Utah College of Law Research Paper No. 427, at 53 (2021); OECD, "OECD Delivers New Single Global Standard on Automatic Information" (Feb. 13, 2014).

⁷³ These jurisdictions include all EU countries, as well as China, India, Hong Kong, and Russia. *See* OECD, "Automatic Exchange Portal: Common Reporting Standard (CRS)" (last accessed July 25, 2022); *see also* OECD, "Automatic Exchange Portal: International Framework for the CRS" (last accessed July 25, 2022); OECD, "Automatic Exchange Portal: CRS by Jurisdiction" (last accessed July 25, 2022).

⁷⁴OECD, international framework, *supra* note 73.

⁷⁶OECD, "Automatic Exchange Portal: Commentaries on the Common Reporting Standard (CRS)" (last accessed July 25, 2022).

⁷⁷OECD, "Automatic Exchange Portal: Common Reporting Standard User Guide and XML Schema" (last accessed July 25, 2022).

⁷⁸CFE Tax Advisers Europe, "EU Sets Out New Corporate Tax Reform Proposals," CFE's Global Tax Top 10 (May 2021).

⁷⁹Rasheed Khan, "What's Changing in the Crypto Regulation Landscape?" Taina, June 21, 2021.

collect and exchange financial information with other jurisdictions, certify customers, collect documentation, and execute withholding to meet CRS reporting obligations, thereby adding CRS tax forms to other required reporting forms.⁸⁰

The OECD will increasingly use the CRS to collect and exchange uniform information on cross-border crypto transactions among participating tax authorities. The CRS has been the supporting framework for international cooperation and exchange of information since 2017. Every year, the number of nations participating in the CRS has increased, and its processes have been refined, such as the annual AEOI. The CRS has historically been used to define types of pertinent financial information that must be exchanged and could help define the reasonable due diligence taxpayers and institutional participants involved in crypto transactions must undertake. Generally, it has successfully enabled tax authorities to detect offshore operations and their taxation in ways that were not possible or practical before its promulgation.

These best practices could be applied to international cryptocurrency transactions. This would undoubtedly reduce the complexities and burdens that would stem from reconciling the current country-by-country (CbC) information exchange regimes and engaging in bilateral agreements. However, rolling cryptocurrencies, with all their complexities and fluidity, into the CRS's information exchange regime will be complicated.

The OECD will likely focus on treating cryptocurrency exchanges (or wherever fiat currency is exchanged for a cryptocurrency) similarly to financial institutions, with their securities reporting requirements. This would include exchange platforms reporting to their users' tax authorities if the user is a resident of a CRS jurisdiction. However, crypto transactions are increasingly conducted in DeFi/DEX networks through peer-to-peer processes. This increases the likelihood of built-in anonymity (a diminished ability of cryptocurrency service providers to know the identity of their users) and therefore reduces the tax authorities' ability to enforce their nations' tax laws. Furthermore, whenever cryptocurrencies are held in a trust or other investment vehicle, such as a liquidity pool that combines DeFi, blockchain, smart contracts, and automated market maker systems, there will likely be insufficient CRS reporting and limited ability for enforcement through prohibitively burdensome blockchain tracing.⁸¹

The CRS uses broad definitions to categorize financial activities to impose reporting and exchange of information requirements on taxable transactions occurring in and among participating CRS nations. These definitions are insufficient to encompass the technical nature and nuances of crypto transactions, as detailed in prior sections of this article. The adoption of the CRS's principles — albeit a convenient starting point for creating international uniformity in the taxation of cryptocurrencies — will not be a silver bullet; it has been criticized for having significant gaps and loopholes that would be exacerbated by the lack of uniformity in the definitions and characterizations of cryptocurrencies.⁸² This disharmony may lead to conflicting reporting analyses or opinions on whether there is even a need for reporting under the CRS and Standard for Automatic Exchange of Financial Account Information in Tax Matters (hereinafter referred to as "CRS," collectively).⁸³ This lack of uniformity is further underpinned by questions about the technical and practical differences between automated market makers in DeFi networks and the traditional order book model on which the CRS was presumably based when it comes to reportability and taxability in the context of

⁸⁰ *Id.* (the changes would generally require cryptocurrency brokers and other service providers to report personal identifying information; year-end account balances; income; gross proceeds; and transactional-level reporting upon request).

⁸¹Mark Morris, "There Are Two Strategies to Hide Clients From CRS: Use a Fake Weakness or Exploit a Real Loophole," LinkedIn, June 29, 2019 (describing loopholes that can be used to avoid CRS reporting, including: (1) conducting exchanges through countries such as Singapore, Liechtenstein, and Cyprus that have irrevocable investment entity trusts that will report zero income for the settlor; (2) categorizing a trust as an active nonfinancial entity holding; (3) locating cryptocurrencies in jurisdictions not participating in the CRS; and (4) setting up fraudulent retirement funds in light of the OECD's lax stance on pensions).

⁸²The CRS has loose rules for a deemed participation retirement fund allowing investors to avoid the reporting requirement by simply claiming a fund is for retirement, with very limited repercussions for early withdrawals, no contribution limits, and easy access to funds.

⁸³OECD, "CRS-Related Frequently Asked Questions" (Feb. 2019); OECD, international framework, *supra* note 73, CRS Section VIII(D)(8).

crypto liquidity pools. The analysis of who are "controlling persons" that could be "reportable persons" is muddied by the very nature of many crypto liquidity pool environments.⁸⁴ There will be a need for uniformly addressing and incorporating cryptocurrencies' unique aspects and novel environments for the CRS to be clearly applied to cryptocurrency transactions.

Many of the CRS reporting requirements, particularly as they might relate to a "reporting" financial institution" and "passive non-financial entity," seem premised on the concept that a central person (or persons) or a managing person (or persons) involved in creating an investment scheme is privy to the identity of the reportable "controlling persons" or taxpayers engaged in the system.⁸⁵ However, as a result of the security provided through encryption and smart contract technology used in many crypto transactions, coupled with the natural features of DeFi/DEX networks, these central persons – even if identifiable – may not know the identity of the cryptocurrency account holders in the DeFi/DEX network (the controlling persons) engaging in crypto transactions that the assumed central persons facilitate. CRS Section VIII(A)(6)(b)'s use of the term "managed by" in the context of defining an "investment entity" might not apply to crypto pools or environments where peer-topeer transactions take place. A central person may exist regarding the establishment of the environment in which the transactions take place but does not engage in the management of the investment activities.

These realities may make it nearly impossible for the CRS to apply to some cryptocurrency transactions as they are constructed. Based on the OECD's interpretation, cryptocurrencies mostly do not fall within the scope of the CRS as it applies to traditional financial assets and fiat currencies. Even if cryptocurrencies fell under the CRS's reporting regime, the fact that cryptocurrencies could be both stored offline (in virtual or physical cold wallets) and exchanged offline would place them outside the scope of the CRS reporting obligations; this would take cryptocurrencies away from the purview of tax authorities, make them more susceptible to tax evasion, and allow them to more easily fund illegal activities.⁸⁶ The hard cash quality of cryptocurrencies that can be held offline would require that measures be taken similar to those used to control illicit cash activities, even though cryptocurrencies may not be characterized as currency in most jurisdictions. As mentioned in Section II.B, on March 22, the OECD published a public consultation document that addresses the need to update the CRS to account for cryptocurrencies' unique characteristics. The OECD expressed its concerns regarding the difficulty of establishing tax transparency, reporting, and administration of crypto transactions, as well as its initial plan to ensure the collection and exchange of information on international cryptocurrency transactions.⁸⁷ The CARF would require reporting on four relevant cryptocurrency transactions:

- exchanges between cryptocurrencies and fiat currencies;
- exchanges between one or more forms of cryptocurrencies;
- reportable retail payment transactions facilitated by cryptocurrencies; and
- transfers of cryptocurrencies.⁸⁸

As described in Section I of this article, there are many potentially taxable events related to crypto transactions that these four reporting requirements may not cover (such as gains from a hard fork, rewards from mining, and interest from yield farming).

Interestingly, the proposed CARF briefly mentions the issues that stem from the decentralized aspect of cryptocurrencies, but does not explain how it will address them. The CARF primarily relies on intermediaries for its sourcing of tax-related data for reporting and exchange of information purposes, describing these intermediaries as "reporting cryptoasset service providers" based on the fact that many — but perhaps a decreasing number of — crypto

⁸⁴OECD, public consultation document, *supra* note 46.

⁸⁵OECD, international framework, *supra* note 73, CRS Section VIII(D)(6).

⁸⁶OECD, public consultation document, *supra* note 46, at 5.

⁸⁷*Id.* at 1-7.

⁸⁸*Id.* at 6 (including operators of cryptoasset ATMs).

transactions occur through people or entities that provide exchange services.[®] Tax authorities have increased their cryptocurrency reporting and tax requirements, but the use of decentralized networks for crypto transactions has increased as well.

Since the inception of blockchain and cryptocurrency technology, cryptocurrency holders have used the decentralized aspect of cryptocurrencies, which is not effectively addressed in the current CARF proposals. However, the CARF references the commentary in the October 2021 guidance of the expanded scope of FATF's analogous definition of virtual asset service providers (VASPs) for expanding the CARF's scope for cryptoasset service providers to include DeFi and DEX networks.⁹⁰ The FATF sets out to deem any persons that are creators, owners, or operators, or otherwise maintain control or influence in the DeFi or DEX arrangements, as VASPs.⁹¹ As discussed in Section I, it will be a challenge for tax authorities to identify persons who have sufficient and centralized control over the DeFi or DEX environments (those with an application or software program meant for user interface) because a DeFi or DEX environment does not need to have a centralization aspect sufficient to identify a person who would be reasonably deemed a VASP. For example, suppose a person can be identified as the creator of a Defi of DEX network. Even in that case, it might be that the identified person did nothing more than create the DeFi or DEX environment and then relinquished control. In other words, it could be possible that crypto transactions in a DeFi or DEX environment are entirely conducted between the transacting parties without any oversight or insight by a third party. So even if a person can be reasonably identified as a VASP, they may not have any information regarding the parties and their transactions that a tax authority would find helpful. Moreover, as mentioned, the

transacting parties in a DeFi or DEX network may not even know each other's identities.

C. Competing Policies

With an estimated market cap of over \$2 trillion in early 2022 and current market cap of about \$1 trillion (and growing), cryptocurrencies will likely have an increasingly central role in influencing international money markets. Many tax authorities have provided guidance on the taxation and reporting of cryptocurrency transactions.⁹² However, each tax authority's position is unique, grounded in national political interests. For example, each country must decide whether to subject crypto transactions to its established income or capital gains taxes.⁹³ Conflicting international economic interests will impact countries' abilities to reach a consensus on how to treat, report, exchange information on, and tax international cryptocurrency transactions. Because cryptocurrencies have the potential to profoundly disrupt global money markets, countries that control and benefit from the current structure might view cryptocurrencies as a threat to the existing power dynamic. Conversely, countries that are at the mercy of the existing system might view cryptocurrency transactions as a tempting alternative.

The March executive order noted that cryptocurrency growth could threaten the United States' position in the international financial system, U.S. national security, and its business stability, but that crypto also might provide opportunities for American innovation and leadership, create jobs, increase the United States' international competitiveness, and promote financial inclusion.⁹⁴ The executive order urged the U.S. government to better understand crypto transactions and to plan ways of regulating and controlling crypto's impacts on international money markets in the interest of the United States.⁹⁵ This understanding includes how the

⁸⁹See generally id. (the CARF's scope of what is an intermediary entity subject to its reporting requirement includes the FATF's definition of virtual asset service providers).

⁷⁰Id. See also Financial Action Task Force, "Virtual Assets and Virtual Asset Service Providers," at 27 (Oct. 2021); John Jeffries, "FATF Expands Scope and Sets Its Sights on Decentralized Finance Platforms," NICE Actimize (last accessed Aug. 31, 2022).

⁹¹FATF, "Virtual Assets and Virtual Asset Service Providers," supra note 90.

⁹²The Law Library of Congress, Global Legal Research Directorate, "Regulatory Approaches to Cryptoassets in Selected Jurisdictions," LL File No. 2019-017453, LRA-D-PUB-002442 (Apr. 2019). ⁹³*Id.*

⁹⁴Alondra Nelson, "The Path Toward Responsible and Equitable Digital Assets Innovation," The White House Office of Science and Technology Policy, Mar. 9, 2022. ⁹⁵*Id*.

international financial system does or does not meet the needs of U.S. consumers in a manner that is equitable, inclusive, and efficient, particularly with regard to international payment systems related to cross-border transactions. The executive order directed the U.S. Treasury Department to draft a report on the future of money and payment systems without providing the White House's position nor any directives on regulations.⁹⁶ However, the executive order did outline six U.S. priorities for regulating cryptocurrencies: "consumer and investor protection; financial stability; illicit finance; U.S. leadership in the global financial system and economic competitiveness; financial inclusion; and responsible innovation."97

Despite the executive order's ostensibly neutral tone, most of its priorities seem to be focused on controlling crypto transactions in a manner that promotes the United States' standing in the international money market and prevents cryptocurrency technology from disrupting the international financial system, including the U.S. dollar's standing as a global reserve currency.⁹⁸ This focus is, and will likely continue to be, reflected in the U.S. tax authorities' choices and agreements for the taxation of cryptocurrency transactions. One example is the United States' choice to characterize cryptocurrencies as property instead of currency for tax purposes.

Curiously, the IMF, which has historically served as the face of a creditors' group made up of the leaders of the international financial and monetary system's funders - including the United States, G-7 countries, the World Bank, and the Inter-American Development Bank - has not

taken the United States' seemingly neutral stance on the regulation of crypto transactions. The IMF has been openly hostile toward the expansion of the cryptocurrency market.⁹⁹

The IMF has opposed the cryptocurrency market by including anti-cryptocurrency restrictions on loans made to countries in financial crisis. For example, as a condition of receiving a \$45 billion loan from the IMF, Argentina has agreed to discourage the use of cryptocurrencies.¹⁰⁰ Interestingly, Argentina accepted those terms even though Buenos Aires is a burgeoning hub for blockchain and crypto transactions; Argentina's weak economy led many Argentines to opt for the relative stability and security of cryptocurrencies.¹⁰¹ The way the Argentine government will discourage its population from engaging in crypto transactions has not been as clear as its intention to do so.¹⁰² However, considering Argentina's relatively sizable sovereign debt, history of defaults, and large cryptocurrency industry, its tax authorities will probably agree to international tax terms that will allow it to increase its ability to capture more of its cryptocurrency tax base and fall in line with the cryptocurrency tax laws of the IMF's controlling members.¹⁰³

The IMF's anti-cryptocurrency stance may reflect its controlling nations' desire to prevent cryptocurrencies from disrupting the international financial system that benefits them. This position was reflected in statements made by Sen. Elizabeth Warren, D-Mass., about a cryptocurrency-related bill she intends to introduce. The bill will focus on ensuring that cryptocurrencies will not negatively impact the

⁹⁶*Id.*; White House fact sheet, *supra* note 2.

⁹⁷White House fact sheet, *supra* note 2.

⁹⁸Id.

⁹⁹ David Z. Morris, "Why Is the IMF So Afraid of Cryptocurrency?" CoinDesk, Mar. 18, 2022 ("This context suggests why the IMF is so aggressively anti-crypto: Because at the highest level, its reason for existence is not to boost developing economies or help the individuals who live within them. The IMF is not a neutral aid organization, but the economic arm of a vast power structure that frequently hides itself behind the language of uplift and reform. It seeks to draw peripheral or developing nations - African and Latin American countries being a current high priority - into the postwar neoliberal consensus." The IMF's goals are promoting financial stability and economic growth by conducting economic surveillance, lending, and capacity development. Its lending function is, in part, meant to help stabilize currencies.). ¹⁰⁰*Id*.

¹⁰¹Kristin Majcher, "Argentina's Government Would 'Discourage' Crypto Usage Under Proposed IMF Deal," The Block, Mar. 17, 2022. ¹⁰²Morris, *supra* note 99.

¹⁰³Nik Martin, "Why Argentina Needs More Help With Its Huge Debt," DW, May 12, 2021.

security of the overall financial system.¹⁰⁴ Also, in its July 7 report, the U.S. Treasury Department expressed its intent to rely on the IMF's advice to deal with cryptocurrencies in a manner that maintains a stable international monetary system.¹⁰⁵

The IMF has openly criticized countries such as El Salvador for choosing to characterize cryptocurrencies as a form of currency for tax purposes.¹⁰⁶ On February 16, U.S. senators Bill Cassidy, R-La., Jim Risch, R-Idaho, and Bob Menendez, D-N.J., introduced legislation to require the U.S. State Department to report on El Salvador's characterization of cryptocurrencies as legal tender and develop a plan to mitigate potential risk to the U.S. and current international financial system.¹⁰⁷ According to Sen. Cassidy, El Salvador's decision to recognize bitcoin as official currency and thereby compete with the U.S. dollar has the potential to disrupt the dollar's standing as the world's reserve currency.¹⁰⁸ El Salvador's decision might be seen as an attempt to relieve itself from its economic dependency on the currencies and money markets of the controlling members of the IMF.¹⁰⁹ El Salvador's choice is viewed by its leaders as a better option for its own economic interests and could be viewed the same way by similarly situated countries. El Salvador is so committed to encouraging the engagement of crypto transactions that it created a so-called volcano bond to finance the creation of "Bitcoin City" for the increased mining of digital coins, which could open El Salvador to foreign capital, diversify its finances away from the U.S. dollar, and circumvent the use of IMF loans with terms tailored, at least in part, to fulfill the interests of the IMF's controlling members.¹¹⁰ It is likely that

countries such as El Salvador will increasingly have access to cryptocurrency-based financing and debt markets that will exist parallel with the current international financial systems and, for reasons expressed in this article, will not be as easy to regulate and control as other taxable items and transactions.¹¹¹ El Salvador's willingness to agree to terms for this international coordination will likely be viewed through a lens of seeking to encourage the growth of cryptocurrency and increase related transactions, setting up a conflict with the IMF.

Some countries, such as Ukraine, have proposed extended tax breaks for cryptocurrency transactions. Others, such as Belarus,¹¹² Gibraltar,¹¹³ and Uzbekistan,¹¹⁴ have established significant tax breaks for crypto transactions. Countries such as Brazil, Uruguay, and Colombia have little to no legislation regulating the use of cryptocurrencies.¹¹⁵ Although not as dramatic as the actions taken by El Salvador, all these nations' tax laws seem to encourage the expansion of crypto transactions within their borders, suggesting that these countries would pursue international agreements that would accomplish the same.

Ahead of the OECD's establishment of CRS rules that address virtual assets, the EU has moved forward with an eighth directive on administrative cooperation (DAC8). The proposal, which was subject to an industry consultation process, was intended to update the EU's tax code by adjusting EU tax rules and exchange of information mechanisms to address cryptoassets' unique features.¹¹⁶ DAC8 is set to be implemented by 2023 across all EU member states. It was drafted to be much broader in scope than current related EU regulations by providing authorities with new

¹⁰⁴Vice News, *supra* note 69.

¹⁰⁵ See Treasury fact sheet, supra note 53.

¹⁰⁶ Morris, "El Salvador: Who Needs the IMF When You Have Bitcoin?" CoinDesk, Nov. 24, 2021.

¹⁰⁷U.S. Senate Committee on Foreign Relations, "Risch, Menendez, Cassidy Introduce Legislation to Mitigate Risks of El Salvador's Adoption of Bitcoin" (Feb. 16, 2022) (El Salvador's "new policy has the potential to weaken U.S. sanctions policy, empowering malign actors like China and organized criminal organizations").

¹⁰⁸*Id*.

¹⁰⁹Morris, *supra* note 106.

¹¹⁰Christiaan Hetzner, "El Salvador's Millennial President Launching Bitcoin 'Volcano Bond' in Major Bet on Cryptocurrency Craze," *Fortune*, Mar. 14, 2022.

¹¹¹Morris, *supra* note 99.

¹¹² J. Dax Hansen, Sarah Howland, and Will Conley, "Digital Currencies: International Actions and Regulations," Perkins Coie (last updated Jan. 2021) (special taxes on cryptocurrencies for residents of a "special economic zone, the Belarusian High Technologies Park"). ¹¹³ *Id.*

¹¹⁴*Id.; see also* Ana Alexandre, "President of Uzbekistan Signs Decree on Blockchain Integration, Tax Exclusions for Crypto," CoinTelegraph, Iuly 5, 2018.

July 5, 2018. ¹¹⁵ Todd Ehret and Susannah Hammond, "Compendium — Cryptocurrency Regulations by Country," Thomson Reuters, at 21-22 (June 1, 2021).

Rodrigo Calleja, "DAC8 Is Coming — What Crypto Stakeholders Need to Know and Do," Bloomberg, Mar. 24, 2022.

options for taking action against cryptocurrencyrelated tax evasion and fraud.¹¹⁷

China, which once led the world in crypto mining activities, has now placed significant bans on crypto transactions, such as bans on financial institutions dealing in cryptocurrencies, developing crypto exchanges (participating in initial coin offerings), and crypto mining.¹¹ Presumably China took this action because of the inability to control cryptocurrency transactions. Many Chinese crypto investors have relocated their decentralized crypto activities into countries such as the United States in search of less restrictions, more due process, and economic freedom.¹¹⁹ This Chinese crackdown and subsequent exodus, including increased geographic distribution of hashrate (a measure of the computational power per second used when mining) around the world, may seem like a positive development for crypto networks. Mining and forging are a necessary part of crypto transactions, and as more miners and forgers spread across the world, crypto transactions are more secure and cost effective. However, considering that over 65 percent of hashrate still remains in a small number of countries such as the United States and Canada, as well as China, these countries' coordination and potentially common outlook on crypto transactions and regulation may demonstrate that the distribution is not so much a net positive for crypto supporters, but rather increases the need and possibility for international cooperation, reporting, and taxation of these activities. The divide is growing between countries that view crypto transactions as a threat to their centralized control and countries with low status in that system — a system that crypto can disrupt.

There are outliers to this dichotomy. Countries such as Bolivia, Turkey, Iran, and

Many tax authorities, including those in Finland, Sweden, Estonia, Brazil, Argentina, and China, are starting to use some of the technologies on which cryptocurrencies are based — namely blockchain — to assist in their tax administration processes. These technologies can be used to track, report, and exchange information on global cryptocurrency transactions.¹²² In the EU, proposals have been made to develop blockchain technology to reduce VAT fraud committed in transactions between EU member states.¹²³ Brazilian tax authorities have implemented a blockchain-based system called bCPF (Brazil's Federal Revenue Department blockchain tax file number), which has been used to share taxrelated data from taxpayers' registries among various Brazilian regulatory agencies.¹²⁴ This has allowed Brazil to safely and efficiently exchange tax data from its most reliable registry among agencies, including customs.¹²⁵

Bangladesh have largely banned most types of crypto transactions within their borders.¹²⁰ This may be because of these centralized governments' desire for (and lack of) control over cryptocurrency transactions, and not because of a desire to foster the development of a new, decentralized money market to use as an alternative to the current monetary system. Other countries, such as the United States, have aggressive tax and regulatory stances on crypto transactions that seem to broadly permit the engagement in cryptocurrency transactions, albeit with increasingly burdensome tracking and reporting obligations.¹²¹ Those positions are almost certainly meant to foster those counties' leadership in an exponentially expanding market, as expressed by the United States in the March executive order.

¹¹⁷*Id.*

¹¹⁸Ehret and Hammond, *supra* note 115, at 26-27.

¹¹⁹Chris Morris, "Despite Ban, Bitcoin Mining Continues in China," Fortune, May 17, 2022; Samuel Shen and Andrew Galbraith, "China's Ban Forces Some Bitcoin Miners to Flee Overseas, Others Sell Out," Reuters, June 25, 2021; Sebastian Sinclair, "China Reemerges as Top Mining Hub a Year After Blanket Ban," Blockworks, May 17, 2022 (bans in China have caused the United States to lead in worldwide mining operations with a market cap percentage of about 38 percent of all mining activities conducted in the United States and about 21 percent of the same in China, mainly accredited to clandestine operations).

¹²⁰Ehret and Hammond, *supra* note 115, at 21, 26-27. ¹²¹*Id.*

¹²²Alfredo Collosa, "How Global Tax Administrations Are Using Blockchain Technology," Bloomberg Tax, Mar. 17, 2022.

¹²³Chelsey Dulaney, "EU Inches Toward Blockchain in Fight Against VAT Fraud," Bloomberg Tax, Sept. 30, 2019.

¹²⁴Collosa, *supra* note 122. ¹²⁵Id.

IV. Conflicts and Burdens

National economic interests affect a country's domestic cryptocurrency tax policies and its willingness to come to a consensus with other nations on global information reporting and exchange of information controls. Several foreseeable factors will independently or collectively contribute to reporting gaps and enforcement challenges for cross-border cryptocurrency transactions, including:

- the fact that the laws related to crypto transactions vary and that many elements of the tax treatment of cryptocurrencies have not yet been fully considered in many jurisdictions;
- conflicting notions and timing of cryptocurrency taxable events;
- pseudo-anonymity on the network and in the processes that facilitate cryptocurrency transactions, with further difficulties related to obtaining information on the operations, particularly in identifying the corresponding intermediary, the reportable event, the available reportable information, and the valuation of the assets; and
- lack of centralized control over cryptocurrencies and crypto transactions.¹²⁶

Three other related issues not discussed in this article (but worth considering) are:

- conflicting valuation methods of taxable events and valuation difficulties resulting mainly from possible high volatility, lack of a uniform database, and frequently inadequate documentation;
- hybrid and evolving characteristics of cryptocurrencies, which create difficulties in classifying them as a financial instrument or an intangible asset; and
- the rapid development and changes of underlying protocols related to blockchain technology.

A. Legal Disharmony

Cryptocurrencies possess two critical characteristics that could turn them into tax havens.¹²⁷ First, there is technically no jurisdiction in which they definitively operate because of crypto's pseudo-anonymity. Second, many crypto transactions occur peer-to-peer without the traditional need for centralization.¹²⁸ There is no uniform tax characterization of cryptocurrencies or any agreements on the tax treatment of crypto transactions, so it is impossible for countries to be sure their cryptocurrency tax laws will be enforced when dealing with cross-border cryptocurrency transactions. For example, although a crypto-to-crypto exchange is considered a taxable event in the United States and many OECD countries, only crypto-to-fiat transfers are taxable events in France.¹²⁹ Therefore, should a U.S. person operate in France, where crypto-to-crypto transactions are not taxable events — and presumably require less reporting the exchange of information between the United States and France may be incomplete for the U.S. tax authorities' purposes. Also, cryptocurrency service providers in countries such as France may not provide their users who may be U.S. taxpayers — with the necessary and hard-to-obtain documents and information required to accurately report their income.

The fact that many jurisdictions, including the United States, consider cryptocurrencies to be property is beneficial for the harmonization of reporting and exchange of information regimes, at least among the countries with similar property characterization schemes. This property view on cryptocurrencies makes the taxation of crypto transactions relatively straightforward because any time a transaction occurs with cryptocurrencies, it creates a potential tax reporting and tax obligation.¹³⁰ However, finding a consensus on what exactly is a cryptocurrency

¹²⁶Collosa, "Cryptoactives and International Exchange of Information," Bloomberg Tax, Dec. 22, 2021; Fabiano Deffenti, "Blockchain Adopted by Brazil's Tax Authority," Laws of Brazil, Nov. 29, 2018.

¹²⁷Omri Marian, "Are Cryptocurrencies Super Tax Havens?" 112 Mich. L. Rev. First Impressions 38 (Sept. 2013). 128 Id.

¹²⁹Thiemann, *supra* note 6, at 4.

¹³⁰Sean Stein Smith, "Crypto Taxes Are Complicated, but Changes Might Be Coming," Forbes, Feb. 6, 2022.

transaction is a fundamental issue that will confound tax authorities whenever dealing with DeFi taxation.¹³¹ Although the majority of countries agree that the three most common crypto transactions are taxable events (exchanging a cryptocurrency for fiat currency, exchanging a cryptocurrency for other cryptocurrencies or cryptoassets, and using cryptocurrencies as payment for goods, services, or wages), there is still a lack of consensus.¹³²

Grenada, Italy, the Netherlands, Portugal, and Switzerland do not consider any exchange made by individuals to be a taxable event for the holder of the cryptocurrency.¹³³ At least 11 jurisdictions, as of 2021, do not impose a capital gains tax on any cryptocurrency transactions or dispositions: Belarus, Germany, Hong Kong, El Salvador, Malaysia, Malta, Portugal, Singapore, Slovenia, Switzerland, and Bermuda.¹³⁴ This analysis is only for those three most common transactions and does not incorporate the more nuanced transactions discussed in Section I of this article. Tax authorities are sure to have differing opinions on the taxation of soft and hard forks wherein either a temporary or permanent split, respectively, in a cryptocurrency's blockchain occurs and the taxpayer obtains a new coin (for example, bitcoin cash) in addition to the original coin. This disharmony may result in a lack of adequate documentation in cross-border cryptocurrency transactions, as discussed below, because one country's reportable and taxable event might be considered nontaxable in the other.

The IMF has reported that most transactions on crypto exchanges take place through entities that operate primarily in offshore financial centers (OFCs)¹³⁵ — where nonresidents can engage in crypto transactions with other nonresidents, potentially relying on the OFC's banking secrecy rules to avoid reporting obligations.¹³⁶ This emphasizes the need to roll crypto transactions into international anti-base-erosion and antiavoidance regimes and for the international consensus required to accomplish these goals.

B. Taxable Event Conflicts

There are potential conflicts within and among nations' unilateral notions on the taxation of crypto transactions that may impact the reportability and exchange of information regimes necessary for the cross-border taxation of cryptocurrency transactions. For example, IRS guidance arguably calls for taxpayers who receive staking rewards to be taxed on the fair market value of these rewards when they were issued.¹³⁷ However, this issue is far from resolved and is the subject of litigation in the Jarrett case, which is set for a March 2023 trial, despite the U.S. Department of Justice and the IRS providing the taxpayer a letter offering a full refund with interest on the taxes paid on the FMV of the staking rewards at receipt.¹³⁸ Conflicts with the interpretation of the technology and taxation of cryptocurrency, such as those presented in the Jarrett case, further evidence a need for coordination among tax authorities for the characterization and reporting of cross-border cryptocurrency transactions.

C. Information Reporting Difficulties

Crypto transactions often occur in permissionless environments designed to preserve privacy by not collecting or exchanging personal information about the transacting parties.¹³⁹ Cryptocurrencies are usually identifiable on the blockchain by alphanumeric strings protected by cryptographic algorithms,

¹³¹ Id.

 ¹³²OECD, "Taxing Virtual Currencies," *supra* note 13, at 27.
 ¹³³*Id*.

¹³⁴ Adriana Hamacher and Stephen Graves, "11 Countries That Don't Tax Bitcoin Gains (2021)," Decrypt, Sept. 13, 2021; see also Roger Huang, "Seven Countries Where Cryptocurrency Investments Are Not Taxed," *Forbes*, June 24, 2019.

¹³⁵ Dimitris Drakopoulos, Fabio Natalucci, and Evan Papageorgiou, "Crypto Boom Poses New Challenges to Financial Stability," IMF Blog, Oct. 1, 2021.

¹³⁶ IMF, "Offshore Financial Centers — IMF Background Paper" (June 2000); Parma Bains et al., "Chapter 2: The Crypto Ecosystem and Financial Stability Challenges," in *Global Financial Stability Report — COVID-19, Crypto, and Climate: Navigating Challenging Transitions* 41, 47 (Oct. 2021).

¹³⁷IRS Notice 2014-21, *supra* note 35 (clarifying that a cryptocurrency miner will recognize ordinary income when the reward tokens are received).

¹³⁸ See Jarrett v. U.S., No. 3:21-cv-00419 (D.C. Tenn. 2021).

¹³⁹Makarov and Schoar, *supra* note 23.

which might not be linked to an account held by an identifiable taxpayer.¹⁴⁰ In most situations, the only way a taxpayer can be linked to a cryptocurrency transaction would be if the transaction were facilitated by an entity that appropriately self-enforces KYC procedures, such as those of regulated financial institutions.¹⁴¹ Not all intermediaries follow these procedures, and nearly all operating in DeFi or DEX networks do not.¹⁴² This, for obvious reasons, poses a substantial obstacle for international reporting and exchange of information regimes.

Historically, the burden of collecting, holding, protecting, and making information available to specified parties has been seen as a cost of doing business for regulated financial industries.¹⁴³ Tax authorities' ability to collect taxes depends heavily on their capacity to identify and trace transactions and link them to a taxpayer.¹⁴⁴

If transactions are not controlled by intermediaries and occur quasi-anonymously on a blockchain, without a need for granted access, KYC obligations and procedures would need to be regulated at the transactional level. However, the procedures for that structure would likely become prohibitively burdensome, expensive, and impractical, which would create an environment ripe for tax evasion — in which the reporting and exchange of information needed to enforce international tax laws would be impossible.¹⁴⁵ This problem would be compounded by the fact that countries may have competing interests in how to tax crypto transactions because the voluntary assumption of these administrative burdens on behalf of another countries' interest could arguably be seen as going against the economic interest of a country and likely not seen as agreeable terms. As discussed, a decentralized environment can operate through the use of smart contracts, which facilitate crypto transactions and typically are deployed anonymously by software developers in

a manner that avoids the need for centralization.¹⁴⁶ A U.S. taxpayer transacting in this sort of environment will potentially realize taxable income. The identity of the taxpayers involved in the transactions cannot be easily known to tax authorities until they use the cryptocurrency through an entity that follows KYC procedures.¹⁴⁷ Therefore, if a U.S. taxpayer simply chooses to engage in transactions with entities that do not have KYC protocols, they could use this environment to avoid taxes otherwise due. Even if the taxpayer, at some point, uses an entity that self-enforces KYC procedures, the entity will likely not have information related to the taxpayer's historical crypto transactions conducted with entities that did not enforce KYC protocols, which would have otherwise been reported on the taxpayer's historic taxable gain transactions.¹⁴⁸ Interestingly, it is possible for the entity that practices KYC procedures to obtain the actual taxes due by expending resources to investigate the entire history of transactions related to the cryptocurrencies they handle.¹⁴⁹ However, tracing transactions along one or more

blockchains is a challenging and costly process.¹⁵⁰ As discussed, traditional means of obtaining information on transactions that are similar to crypto transactions (such as banking transactions and money exchanges) have required and relied on self-reporting and third-party facilitators' reporting (from banks, financial institutions, and money transmitting services). This is how current tax rules and regulations attempt to obtain cryptocurrency transactions' tax-related information in the United States and around the world (for example, IRS Notice 2014-21, John Doe summonses, the IIJA, and Biden's 2022 budget). Crypto transactions do not always align with regulatory or tax code definitions that rely on at least some level of centralization, required choke

¹⁴⁰*Id.*

¹⁴¹Id.

¹⁴²Iota Nassr, "From 'DeFi Summer' to 'Crypto Winter': Leverage, Liquidations and Policy Implications," OECD, Jan. 31, 2022.

¹⁴³Makarov and Schoar, *supra* note 23, at 28. ¹⁴⁴*Id*.

¹⁴⁵*Id.* at 40-41.

¹⁴⁶*Id.* at 36, 38-39.

¹⁴⁷*Id.* at 29.

¹⁴⁸*Id.* at 29-30.

¹⁴⁹*Id.* at 29.

¹⁵⁰Makarov and Schoar, "Blockchain Analysis of the Bitcoin Market," National Bureau of Economic Research Working Paper 29396 (2021) (evidencing that bitcoin flowing out of dark web markets, such as Hydra, can be laundered through many intermediary addresses and eventually enter KYC-compliant exchanges, such as Coinbase or Gemini, without being tagged).

points, and third-party reporting.¹⁵¹ The simplest way to address this issue, which was accomplished in the United States through the IIJA, would be to broaden the reporting requirements to practically any third parties and intermediaries involved in crypto transactions (including crypto software developers, miners, and blockchain validators).¹⁵² However, it is probably impossible for most intermediaries to be able to fulfill their obligations. This is a wide group of third parties responsible for reporting, and the fact that crypto transactions vary widely in how they are processed would make these rules impossible to apply uniformly and prohibitively burdensome to enforce. Tax authorities might be forced solely to rely on self-reports or blockchain tracing at on- and off-ramps for many crypto transactions. As mentioned, blockchain tracing is helpful to tax authorities, but it does have issues.

D. Lack of Centralized Control

Although the CRS is a multilateral framework for the AEOI with more than 110 participating nations, the actual exchange of information is conducted bilaterally with over 4,500 bilateral exchange relationships.¹⁵³ This is partly because the CRS does not establish a central administrator for collecting and disseminating reported information, resulting in inefficiency, redundancy, and fewer secure exchanges of data among countries.¹⁵⁴ It may prove advantageous for the final draft of the CRS to account for cryptocurrency transactions' unique nature and establish a large-scale, private consortium blockchain for the purpose of reporting and exchanging information among participating countries. The use of a permissioned blockchain (as opposed to cryptocurrency's permissionless blockchain) would increase transparency and

relieve any distrust that would otherwise prevent a hypothetical central administrator from being established by agreement.¹⁵⁵ Smart contracts with a blockchain could enable tax information to be securely shared directly to, and only among, the relevant participating countries. Also, the data exchanged could be verified by all the other participating countries without all countries needing to be privy to the substance of the data, thereby further instilling trust and cooperation. For example, instead of reports on transactions being visible for review and reconciliation retrospectively, a blockchain enabled reporting system tied to the blockchain of various cryptocurrencies can be reported and tracked in real time for those transacting in regulationapproved environments. Privacy concerns are a reason the United States has not entered into a multilateral instrument agreement, and privacy remains a concern for foreign financial institutions when complying with the AEOI network under the Foreign Account Tax Compliance Act; financial institutions do not want to violate their own domestic banking and privacy laws or the terms of their contractual relationships with their clients.¹⁵⁶ More specifically, a private consortium blockchain used in the AEOI environment may be restrictive on participants but allow additional countries to join based on the parties' agreement and use of smart contracts to allow tax information to be automatically shared among the selected countries, as well as be verified without other participating countries knowing the content of the information.¹⁵⁷ Every AEOI could then occur automatically through smart contracts without the unnecessary expenditure of time and resources needed to execute bilateral exchanges piecemeal.¹⁵⁸

COMMENTARY & ANALYSIS

V. Summary and Solutions

As discussed in Section IV, the pseudoanonymous nature and uncertain taxability of

¹⁵¹Keightley and Scott, *supra* note 6.

¹⁵²Id.

¹⁵³The CRS system is not as efficient and secure as it could be. Its AEOI framework stems from two multilateral instruments: (1) the Convention on Mutual Administrative Assistance in Tax Matters; and (2) the CRS Multilateral Competent Authority Agreement. See Trang Fernandez-Leenknecht, "Common Reporting Standard: The Blockchain-Based Assets Case," University of Lausanne Tax Policy Center (Nov. 15, 2019); Kim, *supra* note 72; OECD, "Activated Exchange Relationships for CRS Information" (last updated Oct. 2021).

¹⁵⁴Antonio Lanotte and Fernandez-Leenknecht, "Blockchain and Smart Contracts in Tax," Tax Notes Int'l, Oct. 18, 2021, p. 325.

¹⁵⁵*Id.*

¹⁵⁶Kim, "Engineering Pass-Throughs in International Tax: The Case of Private Equity Funds," 56 San Diego L. Rev. 707, 767 (2019).

¹⁵⁷Kim, *supra* note 72, at 54. ¹⁵⁸*Id.*

crypto transactions are fundamental issues that will challenge the creation of an effective international reporting and exchange of information regime. Tax authorities' ability to trace a taxable transaction and link it to a taxpayer could be seen as a prerequisite to the process of taxing crypto transactions. As discussed, onramps and off-ramps for blockchain tracing may be made available at the points cryptocurrencies are exchanged for fiat currencies or vice versa; these points allow tax authorities to audit and trace transactions represented on the public ledger (blockchain). From there, tax authorities can trace and identify taxpayers' on-chain transactions through the KYC obligations that many exchanges and finance environments may be obligated to follow to report. However, it is also possible for crypto transactions not to have been recorded on the blockchain or to have been conducted off-chain, in which case the open and transparent aspect of the blockchain cannot be relied upon by tax authorities for transaction audits and insight.

Similarly, on-ramp and off-ramp transactions can occur on DeFi and DEX networks, where, although likely required, no central person assumes the responsibility for reporting these transactions. A new framework for implementing KYC standards needs to be developed and implemented to account for this issue.¹⁵⁹ For example, tax authorities could require validators of a blockchain to check if addresses they are dealing with belong to a certified taxpayer and to process only crypto transactions that involve certified addresses.¹⁶⁰ Alternatively, member nations that adopt the CARF may require that their taxpayers engage in cryptocurrency transactions within verified networks that enforce KYC requirements and other tax compliance measures. This would effectively bifurcate the world of crypto transactions into legal and illegal markets — a divide that seems to exist in many other markets but is blurred in the crypto world. Either of these framework options would better ensure tax authorities will have access to information and reports necessary for the

effective exchange of information and taxation of cryptocurrency.

Data collection on cryptocurrency activity could be improved by adding a separate section on tax returns so that taxpayers can make declarations of income from cryptocurrency assets and related transactions.¹⁶¹ Modifying the OECD's proposed CARF rules to incorporate controls for aspects of crypto transactions that make them unique¹⁶² will increase transparency, create more efficient tax administration, and reduce tax evasion through offshore cryptocurrency accounts. For example, a full-scale technical and legal assessment of all the participants and their potential roles in the crypto transaction flow should be conducted for a final reconciliation between what is represented in the technology and the laws that are drafted. Tax law should follow the technology and a deep understanding of the same, unlike the blanket and vague declaration that nearly everyone involved in a crypto transaction would be considered a broker, as was the case in the IIJA. Taxpayers' mere awareness of international consensus on taxable cryptocurrency transactions, with AEOI among nations, would encourage accurate and timely self-reports to tax authorities.

Interestingly, the same technology that creates the trust and reliability on which cryptocurrencies are based, and that makes cryptocurrencies challenging to regulate, could make it possible for the proposed CARF to establish a central repository and administrator that can streamline and judiciously exchange information related to cryptocurrencies and their transactions directly to relevant and participating tax authorities.¹⁶³ Achieving efficiency may be more critical in years to come when more crypto transactions – and more microtransactions for everyday goods and services – will likely take place. However, the OECD's proposed plan for updating the CRS by

¹⁵⁹Makarov and Schoar, *supra* note 23, at 41.

¹⁶⁰*Id.*

¹⁶¹Thiemann, *supra* note 6, at 20.

¹⁶² For example, enforcing KYC laws; accounting for and coming to an international consensus on the types of taxable events involving cryptocurrencies; creating registries; using blockchain technology to enforce reporting and exchange of information; and entering into bilateral or multilateral treaties for the exchange of information (that is, incorporate cryptocurrency transactions into antiavoidance and base erosion regimes).

¹⁶³Lanotte and Fernandez-Leenknecht, *supra* note 154.

implementing the CARF does not address the potential use of blockchain technology to execute its proposed reporting and exchange of information goals. A global blockchain-based digital registry could allow tax authorities across the world to view and verify the taxes due and paid in real time whenever registered cryptocurrencies change hands; as described in Section III.C of this article, tax authorities have either made proposals for or already implemented similar systems in other tax contexts nationally and regionally. A registry with the information provided by compliant taxpayers could be used by tax authorities to detect noncompliant activities more easily in the cryptocurrency market by providing markers of potential gaps in the chain of ownership and identifying potential contacts for investigations and audits. A decentralized environment necessitates a change in tax authorities' approach to reporting and exchanging information. Tax authorities may choose to provide incentives or penalties to better ensure taxpayers' participation in a cryptocurrency registry. These incentives and penalties should be more uniformly applied across the world to better achieve the goals of most nations to balance their regulation and control over cryptocurrencies with their expressed desire to foster fair cryptocurrency competition and innovation.¹⁶⁴ From a practical standpoint, a taxpayer could upload digital invoices related to crypto transactions into a country's reporting system to be verified, reformatted, and entered onto a blockchain-based network accessible to tax authorities.¹⁶⁵ Proposals for this type of system have already been introduced across the EU to combat VAT fraud schemes. This could theoretically create a digital environment automating tax payments. The entire history of transactions related to a cryptocurrency could be easily accessible by tax authorities any time they suspect fraud, evasions, or errors.

If the CARF considers only the four proposed relevant cryptocurrency transactions¹⁶⁶ to be taxable cryptocurrency-related events, it will likely create an insufficient information exchange system because of disharmonious domestic tax laws. This also will create complexities for taxpayers that carry out multinational cryptocurrency operations and will unnecessarily burden both taxpayers and tax authorities. The currently proposed CARF would not cover all the potentially taxable events, some of which are described in Section I of this article; this may be an issue for some jurisdictions that have varying views on the number of transactions it believes are taxable cryptocurrency-related events. Further, the CARF seeks to have its proposed rules and commentary be transposed into the domestic laws of its members to collect information from resident cryptocurrency intermediaries. It is likely, as has been the case for the current CRS, that member countries will freely exchange relevant tax information they receive through their activities related to their national tax regimes. However, considering the disharmony among countries' tax treatments of cryptocurrency transactions, it is likely that countries and their resident reporting cryptoasset service providers will not have sufficient information to satisfy all member countries' needs, and may require burdening foreign tax administrations with a need to obtain data in their jurisdictions that is not relevant to their tax codes. Therefore, an analysis by nations to reach a coordinated agreement on the characterization of cryptocurrencies and their related transactions on a case-by-case basis by analogizing the cryptocurrencies and their related events to the most similar and currently existing characteristics and taxable events may be a way to reach multilateral agreement. For example, if a cryptocurrency is controlled by a centralized group, countries might be more agreeable to considering it a security for tax purposes at its initial token offering. Or a CBDC might be more

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¹⁶⁴White House fact sheet, *supra* note 2 (outlining six U.S. priorities for regulating cryptocurrencies: "consumer and investor protection; financial stability; illicit finance; U.S. leadership in the global financial system and economic competitiveness; financial inclusion; and responsible innovation").

¹⁶⁵Dulaney, *supra* note 123.

¹⁶⁶ The events are: (1) exchanges between cryptocurrencies and fiat currencies; (2) exchanges between one or more cryptocurrencies; (3) reportable retail payment transactions facilitated by cryptocurrencies; and (4) transfers of cryptocurrencies. OECD, public consultation document, *supra* note 46.

easily and universally characterized as a currency.

According to the CARF, cryptoasset service providers are responsible for collecting the required information for their jurisdiction's tax standards after determining which tax jurisdictions they are operating in and identifying their customers, clients, and users. This may negatively impact the CARF's effectiveness. As previously mentioned, France's tax regime views exchanges of cryptocurrencies for fiat currencies as taxable but not exchanges of cryptocurrencies for other cryptocurrencies. Moreover, regarding the sale or exchange of cryptocurrencies in Germany, generally individuals do not have to pay capital gains tax on crypto assets held for more than one year.¹⁶⁷ However, the United States generally considers all exchanges of cryptocurrencies as taxable and will likely not be able to obtain necessary information for all crypto transactions conducted via a reporting cryptoasset service provider in France and Germany. Therefore, CARF member countries should reach a consensus on the global baseline of taxable events, similar to how there is a common understanding in treaties that the receipt of passive income, such as interest, royalties, and rents, is a taxable event. This negotiated consensus could form the basis of expanding the four common transactions to encompass all crypto transactions relevant to the member countries. For example, forming a baseline consensus of taxable events would allow countries to focus on self-help and even bilateral measures for crypto transactions they believe are relevant but were not a part of the baseline consensus. The U.S. Treasury Department expressed its intent to expand bilateral engagements in a coordinated effort to effectively address the taxation of cryptocurrency transactions in its July report.¹⁶⁸ Using blockchain technology for the proposed reporting and exchange of information requirements outlined in the CARF would alleviate much of the administrative burdens. As discussed in Section III.C, countries involved

in the endeavor may negotiate for and

agree to terms perceived to be in their economic interest, which will likely be conflicting. There appears to be a divide between the controlling members of the IMF and the countries in their economic sphere of influence. Some countries may not be looking to cryptocurrencies as a means of opting out of the traditional international financial system and would benefit from maintaining the status quo. As noted earlier, the U.S. Treasury Department declared its intention to work with the IMF and rely on its advice as a leading adviser in promoting the stability of the international monetary system, including, presumably, the measures to prevent or slow the proliferation and use of cryptocurrencies.¹⁶⁹ Other countries that have not benefited from the traditional international financial system may see cryptocurrencies as a way out from under the system's controls, or at least a viable alternative option. These reasons will likely cause some countries with relative control over the current international financial system to negotiate terms of consensus that discourage the expansion of crypto transactions and treat cryptocurrencies as anything other than currency for tax purposes. In contrast, other countries that view crypto transactions as a desirable alternative to the current international financial system will likely negotiate for terms that foster and encourage international cryptocurrency transactions' growth. To reach a consensus, countries must understand this growing divide to reach a middle ground.

The CARF's proposed reporting nexus rules generally rely on the tax residence and standing of cryptoasset service providers. These straightforward proposed nexus rules, coupled with the fact that crypto transactions are nearly exclusively virtual, will likely cause cryptoasset service providers to structure tax reporting havens. Therefore, it is likely necessary for countries to adapt their base erosion and antideferral regimes, as well as their treaties and exchange of information agreements, to account for the uniquely mobile nature of cryptocurrencies and their related transactions.

¹⁶⁷German Income Tax Act (EStG), at section 23, para. 1, sentence 1, no. 2.

¹⁶⁸ See Treasury fact sheet, *supra* note 53.

¹⁶⁹Id.

As discussed in Section IV, nonresidents of an OFC can engage in crypto transactions with other nonresidents while potentially relying on the OFC's banking secrecy rules to avoid reporting obligations. To resolve this issue, interested tax authorities might not be able to rely on either a bilateral income tax and AEOI treaty between their country and the OFC or the CARF if the OFC is a resident of a country that didn't adopt it. In these situations, the interested tax authorities could address potential reporting issues by negotiating, updating, and executing a bilateral exchange of information agreement. Countries such as the United States have established stricter self-reporting requirements on their citizens, which will likely result in mass offshoring or a stifling of cryptocurrency innovation and residual benefits unless these changes are made in coordination with other countries that will enforce similarly strict controls, such as those in the CRS, which has improved tax authorities' insight into international tax havens.

VI. Conclusion

The world changed dramatically in ways that were nearly impossible to have predicted when the internet moved from Web 1.0 (the static oneway communication presented on websites) to Web 2.0 (that is, peer-to-peer communication facilitated by a centralized third party, such as a social media platforms). As we stand on the edge of a Web3 world where no centralization is needed for human interaction and everything is connected directly, there will be significant changes to the world financial systems and how governments impose control over these systems and enforce their tax laws, as discussed herein.

The attempt to create controls over the taxation of cryptocurrencies is occurring at a time in tax history when jurisdictions around the world have already been working to establish global reporting standards to combat corporate tax base erosion. Countries' competing financial interests and the potential for cryptocurrencies to disrupt the international money market will create obstacles to establishing consensus for effectively taxing cross-border crypto transactions. Tax authorities that assist each other in a coordinated effort will still be challenged by their own conflicting interests in what to do with this multitrillion-dollar tax base, with millions of regularly occurring transactions. Tax authorities' coordinated use of blockchain and smart contract technology could make this less burdensome.

However, without a baseline consensus on which crypto transactions are taxable events – at least from an international transaction perspective - and a coordinated AEOI among interested countries, it is unlikely that a single jurisdiction's tax authority will be able to effectively and thoroughly assess if a taxpayer correctly reported the taxable income from cryptocurrency-based taxable events.¹⁷⁰ To achieve that end, international cooperation is necessary to harmonize and clarify international reporting obligations to avoid potential double taxation and tax evasion. This type of global coordination is essential to resolve Congress's expressed concerns about increasing its data collection and regulation on the cryptocurrency market shared by other nations.¹⁷¹ Fortunately there is already an international consensus and framework in place from which nations can pull analogies and use as a foundation. More innovative ideas, global coordination, and technical adjustments are required more than ever because of the fundamentally and increasingly decentralized and amorphous nature of crypto transactions and their technologies. Finally, there are numerous developments and interests for tax authorities and taxpayers engaged in cross-border crypto transactions to consider during the next few years, including the following:

- the relocation of more companies in the business of facilitating crypto transactions to developed nations, as a result of bans by countries unwilling to risk loss of centralized controls (for example, China and Iran);¹⁷²
- the likely Morganization¹⁷³ and monopolization of the international crypto

¹⁷⁰Thiemann, *supra* note 6, at 12.

¹⁷¹Keightley and Scott, *supra* note 6, at 1 ("Enhanced data collection and reporting could lead to increased tax revenue [but also] could lead some crypto market participants to move their operations offshore to avoid government oversight, which may negatively impact a burgeoning sector of the U.S. economy.").

burgeoning sector of the U.S. economy."). ¹⁷²Morris, *supra* note 119; Shen and Galbraith, *supra* note 119.

¹⁷³Adam Hayes, "What Is Morganization?" Investopedia (last updated Oct. 26, 2020).

markets by companies, such as FTX during the 2022 bitcoin crash;¹⁷⁴

- the more than doubling of lobbying efforts by crypto supporters in the United States against the IIJA's crypto-taxes before they take effect on January 1, 2023;¹⁷⁵
- developed nations' desire to maintain the international monetary system's status quo as well as authoritarian regimes' desire to maintain control, causing both types of countries to promulgate tax laws that prevent the proliferation of cryptocurrency transactions while many developing nations view bitcoin as an appealing alternative to the current international monetary and financial system status quo; and
- the Inflation Reduction Act of 2022's allocation of approximately \$80 billion to the IRS over the next 10 years a 75 percent increase in its yearly budget with more than \$45 billion of the funding earmarked for the IRS's compliance and enforcement effort, ¹⁷⁶ notably, in large part, "to provide digital asset monitoring and compliance activities"¹⁷⁷ that is, the enforcement of tax compliance for cryptocurrency transactions.¹⁷⁸

¹⁷⁷*Id.* at Part 3, section 10301(1)(A)(ii).

¹⁷⁸ The foregoing information is not intended to be "written advice concerning one or more Federal tax matters" subject to the requirements of section 10.37(a)(2) of Treasury Department Circular 230. The information contained herein is of a general nature and based on authorities that are subject to change. Applicability of the information to specific situations should be determined through consultation with your tax adviser. This article represents the views of the author(s) only, and does not necessarily represent the views or professional advice of KPMG LLP.



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¹⁷⁴ John McCrank and Megan Davies, "Crypto Exchange FTX Has 'a Few Billion' to Support Industry — Bankman-Fried," Reuters, July 6, 2022; Nicholas Gordon, "People With Money Are Scared': The CEO of FTX Blames the Crypto Crash on the Fed Hiking Interest Rates," *Fortune*, June 20, 2022; Tim Hakki, "Sam Bankman-Fried: FTX Has "Responsibility' to Step In and Stem Crypto Contagion," Decrypt, June 20, 2022.

¹⁷⁵ "Crypto Lobbying Is Going Ballistic," *The Economist*, Dec. 7, 2021.

¹⁷⁶ See, generally, the 2022 Inflation Reduction Act (P.L. 117-169).

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