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Steven Williams

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Tax It "To The Moon"[1]: A Cryptocurrency Story

Steven Williams[2]

I. Introduction

The rise of cryptocurrency[3] usage over the last decade has led to a rush of government agencies playing catch-up. Despite cryptocurrency's decade-plus of existence, there has been surprisingly little formal regulation in the United States regarding the use and taxation of cryptocurrency. That is poised to change with the passage of H.R. 3684, the Infrastructure Investment and Jobs Act, which was signed into law on November 15, 2021.

H.R. 3684 represents the first attempt from the U.S. legislature to formalize reporting requirements for the acquisition and exchange of digital assets, including cryptocurrency. It will not be the last. The Act extends traditional cash reporting requirements to cryptocurrency and other digital assets. These requirements extend to individual investors and businesses who accept cryptocurrencies in exchange for goods or services.

However, the new requirements raise as many questions as they provide answers. The new reporting requirements place the onus on both individuals and third parties, such as e-wallet providers and decentralized financial service providers, to collect the required information from

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[1] "To the moon" is a common phrase found on crypto-themed message boards and subreddits which refers to a strong belief that a cryptocurrency will rise significantly in price. *See* Glossary, *Moon*, BINANCE ACADEMY, https://academy.binance.com/en/glossary/moon (last visited February 13, 2022).

[2] J.D. Candidate, 2022, Seton Hall University School of Law; M.B.A., 2019, Western Governors University; B.A., 2008, University of Montana. Owner of 0.0125 BTC. Thank you to Professor Richard Winchester for his guidance.

[3] The last decade has seen several types of digital assets created that rely on blockchain technology for implementation. Cryptocurrencies represent most these assets, but they also include digital art (known as non-fungible tokens) among other assets. Dozens of different coins have been produced as well. For the purposes of this paper, the broad focus will be on cryptocurrency as opposed to other digital assets. Many specific examples will reference Bitcoin, perhaps the best-known cryptocurrency.

the parties engaging in the transaction. These requirements raise numerous compliance issues that will require additional guidance from rule-making entities. Individuals may have to report where they received cryptocurrency from mining operations. This information could be difficult to provide if they participate in a mining pool or other shared-computing arrangement. E-wallets and cryptocurrency exchanges will have to implement procedures to collect the necessary information from customers, which could potentially raise transaction costs. These changes could push transactions away from third party intermediaries and back into the "wild west" of unregulated peer-to-peer exchanges. Such a shift would undermine the proposed goals of the legislation.

This paper will examine the problems and concerns that still exist in the wake of the passage of H.R. 3684. Part II of this paper considers the background and growth of cryptocurrency. Part III addresses the current state of cryptocurrency transactions. Part IV reviews previous IRS rulemaking efforts and Congress's attempts to address the taxation of cryptocurrency transactions. Part V analyzes the proposed law changes and discusses the difficulties of enforcing compliance on this emerging portfolio of digital assets.

II. A Brief History of Cryptocurrency

The notion of cryptocurrency can be traced to the late 20th century when libertarian-minded individuals, intrigued by the power of personal computers and the Internet, began to consider ways in which to leverage these new technologies to create systems that were outside the scope of modern governments. American cryptographer David Chaum created the first

building block in this foundation in the 1980s, who invented a "blinding" algorithm that allowed for secure, unalterable information exchanges between parties.[4]

This innovation was followed by unsuccessful attempts to create a truly digital currency. In the late 1990s, a computer science student at the University of Washington, Wei Dai, created an electronic currency, b-money. This currency relied on distributed ledgers that prevented any single entity from blocking transactions while offering a degree of anonymity to the transaction.[5] B-money was never deployed for use, perhaps because at the time Dai believed such a payment system would never catch on. The feasibility and acceptance of web-based payments soon changed with the rise of Internet payment processors such as PayPal.[6]

In 2008, an individual named Satoshi Nakamoto[7] wrote a white paper setting the stage for the development of what would become the most well-known of the cryptocurrencies, Bitcoin.[8] The original idea, similar to Wei Dai's, was to create a peer-to-peer payment system[9] based on

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[4] Brian Martucci, *What Is Cryptocurrency – How It Works, History & Bitcoin Alternatives,* MONEY CRASHERS (Oct. 29, 2021), https://www.moneycrashers.com/cryptocurrency-history-bitcoin-alternatives/.

[5] Wei Dai gave some insight to his motivations, stating his "motivation for b-money was to enable online economies that are purely voluntary…ones that couldn't be taxed or regulated through the threat of force." *See* Aaron Van Wirdum, *The Genesis Files: If Bitcoin Had a First Draft, Wei Dai's B-Money Was It*, BITCOIN MAGAZINE (Jun. 14, 2018), https://bitcoinmagazine.com/technical/genesis-files-if-bitcoin-had-first-draft-wei-dais-b-money-was-it.

[6] Elon Musk's role in the foundation of PayPal and subsequent Bitcoin evangelism led to unfounded theories asserting that Musk was the mysterious creator of the digital currency. *See* Arjun Kharpal, *Elon Musk Denies He Is Bitcoin Creator Satoshi Nakamoto*, CNBC (Nov. 28, 2017, 7:06 PM), https://www.cnbc.com/2017/11/28/elon-musk-denies-he-is-bitcoin-creator-satoshi-nakamoto.html.

[7] Widely believed to be a pseudonym, Satoshi Nakamoto signed off from the Bitcoin project in late 2010, handing the copyright, source code, and domains to the Bitcoin community. The pseudonymous creator effectively disappeared, never posting publicly again. Nakamoto left an e-wallet containing 1.1 million Bitcoin (currently valued at approximately $55 billion) untouched. Control of this e-wallet is at the center of *Kleiman v. Wright*, currently pending appeals following a jury trial in the U.S. District Court for the Southern District of Florida. *See* Chris Morris, *$69 Billion in Bitcoin Is at The Center of Miami Crypto Court Fight*, FORTUNE (Nov. 2, 2021, 10:57 AM), https://fortune.com/2021/11/02/bitcoin-trial-satoshi-nakamoto-craig-wright-david-kleiman-wallet.

[8] *See* Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN, https://bitcoin.org/bitcoin.pdf (last visited February 13, 2022).

[9] Cryptocurrencies, such as Bitcoin, are a payment system and (more importantly for purposes of this paper) used as a speculative vehicle. Some argue that cryptocurrencies are money, but the volatility of cryptocurrency's value would seem to cut against it when analyzing cryptocurrency against the three functions of money: medium of exchange, store of value, and unit of account. *See* Scott A. Wolla, *Bitcoin: Money or Financial Investment?*, FED. RES. BANK OF ST. LOUIS: PAGE ONE ECONOMICS (Mar. 2018), https://research.stlouisfed.org/publications/page1-econ/2018/03/01/bitcoin-money-or-financial-investment.

requiring cryptographic proof instead of trust between parties.[10] This required cobbling together several disparate technologies which had existed for decades, including cryptographic time stamps, cryptographic signatures, peer-to-peer networks, and public keys.[11] The resulting product could best be described as "not elegant."[12] However, the combination of these technologies allowed parties to structure transactions anonymously without relying on existing payment processors. Emblematic of the programmer culture that spawned cryptocurrency, the first official recorded transaction was for a pizza delivery.[13]

Bitcoin slowly gained acceptance as a form of payment over the following years. Some online-based vendors, such as Overstock.com, started to accept Bitcoin for some transactions.[14] However, wide acceptance was limited due to Bitcoin's frequent and volatile price movements.[15] In 2013, Eric Posner predicted there would be an imminent collapse of the currency, stating "it resembles a Ponzi scheme."[16]

Despite the volatility of Bitcoin and well-meaning concern of some scholars and financiers, Bitcoin continued to grow in popularity. Today, there are multiple publicly-traded companies that specialize in cryptocurrency transactions and traditional payment processors such

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[10] *See* Nakamoto, *supra*, note 8.

[11] Gwern Branwen, *Bitcoin Is Worse Is Better*, GWERN (Nov. 21, 2018), https://www.gwern.net/Bitcoin-is-Worse-is-Better

[12] *Id*.

[13] On May 22, 2010, a Florida programmer, Laszlo Hanyecz, transferred 10,000 BTC (present value: $500 million) to a volunteer in England who called in a credit card order to a local Papa Johns for two large pizzas (present value: $32). *See* Benjamin Wallace, *The Rise and Fall of Bitcoin*, WIRED (Nov. 23, 2011, 2:52 PM), https://www.wired.com/2011/11/mf-bitcoin.

[14] *See* Saumya Vaishampayan, *Bitcoin Now Accepted On Overstock.com*, MARKETWATCH: THE TELL (Jan. 9, 2014, 3:23 PM), https://web.archive.org/web/20160322120750/http://blogs.marketwatch.com/thetell/2014/01/09/bitcoin-now-accepted-on-overstock-com-through-vc-backed-coinbase.

[15] John Edwards, *Bitcoin's Price History*, INVESTOPEDIA, https://www.investopedia.com/articles/forex/121815/bitcoins-price-history.asp (last visited Feb. 13, 2022).

[16] While Prof. Posner may still be proven correct, an investment made the day of his prediction of Bitcoin's collapse would have increased nearly 40,000% to date. Eric Posner, *Fool's Gold*, SLATE (Apr. 11, 2013, 11:11 AM), https://slate.com/news-and-politics/2013/04/bitcoin-is-a-ponzi-scheme-the-internet-currency-will-collapse.html.

as Mastercard are dipping their toes into the cryptocurrency waters.[17] Other corporations have

considered getting into the cryptocurrency business, including Facebook and the issuance of a

Libra coin.[18] Major financial institutions have released speculative products, such as exchange

traded notes, and other derivatives to allow investors to speculate on cryptocurrencies on the

legitimate markets.[19] In the middle of 2021, El Salvador announced that they would accept

Bitcoin as legal tender.[20] Even if the speculative "Bitcoin bubble" alluded to by Eric Posner does

eventually pop, cryptocurrency technologies developed in the last decade could provide

alternatives for "underbanked" people as well as countries that previously pegged their

currencies to other fiat moneys.

III. Cryptocurrency Overview

a. *The Technical Aspects*

One of the technologies that makes Bitcoin and other similar cryptocurrencies so

appealing is the reliance on the blockchain. A blockchain is a distributed database that is shared

among "nodes" on a computer network.[21] The blockchain is used to allow digital information to

be recorded and distributed, but not edited.[22] While this causes redundancy since the data is held

in several different locations, it also protects the fidelity of the data as any unauthorized

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[17] Raj Dhamodharan, *Why Mastercard Is Bringing Crypto Onto Its Network*, MASTERCARD (Feb. 10, 2021), https://www.mastercard.com/news/perspectives/2021/why-mastercard-is-bringing-crypto-onto-our-network.

[18] Hannah Murphy, *Facebook's Libra Currency To Launch Next Year In Limited Format*, FINANCIAL TIMES (Nov. 27, 2020), https://www.ft.com/content/cfe4ca11-139a-4d4e-8a65-b3be3a0166be.

[19] Alana Benson & Andy Rosen, *Bitcoin ETFs: What To Know*, NERDWALLET (Dec. 21, 2021), https://www.nerdwallet.com/article/investing/bitcoin-etfs.

[20] MacKenzie Sigalos, *El Salvador Looks To Become The World's First Country To Adopt Bitcoin As Legal Tender*, CNBC (Jun. 5, 2021, 4:56 PM), https://www.cnbc.com/2021/06/05/el-salvador-becomes-the-first-country-to-adopt-bitcoin-as-legal-tender-.html.

[21] Adam Hays, *Blockchain Explained*, INVESTOPEDIA, https://www.investopedia.com/terms/b/blockchain.asp (last visited Feb. 13, 2022).

[22] *Id*.

alteration of a record on one node would not appear on other nodes.[23] The other nodes can communicate with each other to identify the bad node, either overwriting the bad data or ignoring it altogether.[24]

Bitcoins are created through a process called mining. Prospective miners use specialized computing equipment to solve complex mathematical problems.[25] The first computer in the network to solve the problem will receive a block of new Bitcoins.[26] As of 2021, each successful mining attempt yields 6.25 BTC.[27] This yield halves every four years and is designed to eventually stop yielding Bitcoins when a finite threshold is reached.[28] One drawback of the finite supply is that it encourages hoarding since the supply of newly minted Bitcoins continues to shrink even as demand and acceptance grows.[29] Users will treat their Bitcoin holdings as a speculative investment, rather than as a means of payment.[30]

As a decentralized currency, Bitcoin relies on a system of public and private keys to provide security to transactions. The public key serves the role of an e-mail address or a username, providing a public identifier for sending or receiving payments.[31] The detail of the transaction is available on the blockchain and is viewable by anyone.[32] However, as the user is only identified by their public key, some degree of anonymity is retained. The private key

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[23] *Id.*

[24] *Id.*

[25] *See* Noelle Acheson et al., *How Bitcoin Mining Works*, COINDESK (Jan. 24, 2022), https://www.coindesk.com/learn/how-bitcoin-mining-works-2.

[26] *Id.*

[27] *Id.*

[28] The total amount of Bitcoins set to enter circulation is capped at 21 million. Approximately 18.7 million coins are currently in circulation, with the remainder to be distributed by 2140. *Id.*

[29] *See* Ben Dyson, *Bitcoin's 3 Fatal Design Flaws*, POSITIVE MONEY. https://positivemoney.org/2014/04/bitcoins-fatal-design-flaws (last visited February 20, 2022).

[30] *Id.*

[31] *What Is A Private Key?*, COINBASE, https://www.coinbase.com/learn/crypto-basics/what-is-a-private-key (last accessed February 13, 2022).

[32] *Id.*

functions similarly to a unique password.[33] The private key is linked to the public key using a complex mathematical code.[34] This private key is retained by the user and not published publicly. When a user completes a transaction, the private and public keys are confirmed to be a match by the other nodes on the blockchain.[35] Once the other nodes verify the keys match, the transaction is recorded.[36] This feature allows users to complete transactions without the need of a third-party intermediary, such as a bank.

b. *Benefits of Cryptocurrency*

Cryptocurrencies provide certain benefits due to the anonymous nature of the payments and security backed by the innovative technology of the blockchain. Some individuals may require anonymity to complete transactions. An example would be individuals who live in countries where bank accounts and financial transactions are closely scrutinized by government actors. Bitcoin transactions allow individuals to transfer money across boundaries to family and friends that otherwise may be disallowed by government policy. This access to greater financial freedom is one of the drivers behind China's continued efforts to crack down on both Bitcoin mining and transactions.[37]

The advantage of an anonymous currency can also have legitimate benefits in "open" countries such as the United States, particularly in situations of domestic violence. Financial abuse plays a key role in domestic violence. Ninety-four percent of domestic violence survivors

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[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] *Id.*

[37] Among other concerns such as irresponsible speculation and environmental damage, Chinese regulators cited "social order" as a reason for their 2021 ban on cryptocurrency. Alun John, Samuel Shen, & Tom Wilson, *China's Top Regulators Ban Crypto Trading And Mining, Sending Bitcoin Tumbling*, REUTERS (Sep. 24, 2021, 1:49 PM), https://www.reuters.com/world/china/china-central-bank-vows-crackdown-cryptocurrency-trading-2021-09-24/

in the United States stated that they experienced financial abuse.[38] This form of abuse often includes control over spending and access to financial accounts.[39] Wider access to alternate forms of money could alleviate some of this abuse. The primary benefit of cryptocurrencies is that the electronic wallet containing any currency is linked not to a name and address but a pseudonymous key. There is no risk of a bank statement or other correspondence being sent to the address on record.

The lack of a centralized authority can be beneficial to certain types of individuals who are traditionally underserved in banking. Since cryptocurrencies such as Bitcoin eliminate intermediaries, users do not have to worry about fees typically associated with banks, such as minimum balance fees, account maintenance fees, and overdraft fees.[40] The decentralized nature of cryptocurrency also makes it appealing for international transactions. A Bitcoin transaction does not incur exchange costs or wire transfer fees that are typically charged by financial institutions.[41]

c. *Drawbacks of Cryptocurrency*

One of the benefits of cryptocurrency, its anonymity, also poses a considerable drawback. The same anonymity that makes cryptocurrency appealing to state dissidents also makes it an appealing tool for criminals and others involved in black market enterprises. The most prominent example of this is likely the dark web site known as "Silk Road."[42] The website, which operated

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[38] EVA PENZEYMOOG AND DANIELLE C. SLAKOFF, THE EMERALD INTERNATIONAL HANDBOOK OF TECHNOLOGY-FACILITATED VIOLENCE AND ABUSE 645 (2021).
[39] *Id*.
[40] Nathan Reiff, *What Are The Advantages Of Paying With Bitcoin*, INVESTOPEDIA (Aug. 2, 2021), https://www.investopedia.com/ask/answers/100314/what-are-advantages-paying-bitcoin.asp.
[41] *Id*.
[42] JERRY BRITO AND ANDREA CASTILLO, BITCOIN: A PRIMER FOR POLICY MAKERS 23 (2013).

from 2011 to 2013, used Bitcoin transactions to sell everything from drugs to forged identity documents.[43] At its peak, Silk Road processed $1.2 million in illicit transactions a month.[44]

The decentralized aspect of cryptocurrency also creates usability issues. There is no way for an individual to recover their private keys if they become lost. This means that if a user were to misplace their private key, they may never again have access to the electronic coins contained in their wallet.[45] This necessitates users either keeping multiple redundant copies of their key or resorting to a third party to manage their wallet. Either of these methods creates an appealing target for hackers. Average consumers may also be caught unaware should they lose their keys, assuming that there are recovery mechanisms similar to other financial accounts.

The volatility of Bitcoin and other cryptocurrencies make it difficult to use as a medium to transfer money between parties. Bitcoin is prone to suffer from speculative bubbles where media coverage will prompt waves of new investors to pump up Bitcoin prices which leads to subsequent price corrections.[46] Bitcoin can also be highly sensitive to news of planned regulation, as seen in May 2021 when Chinese regulators vowed to crack down on Bitcoin mining and trading which caused the value of the coin to plummet thirty percent in a day.[47] This volatility could inhibit broader use of the currency for peer-to-peer transactions. An individual who works in New York and wants to send money home to his family in India might consider Bitcoin as it does not have the transaction fees typically found with vendors such as Western

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[43] *Id*.

[44] *Id* at 24. The authors go on to note that over this same period, the Bitcoin market amassed $770 million in transactions, meaning Silk Road transactions accounted for only 0.15% of all Bitcoin transactions over this period. *But see* Makarov and Shoar, *infra*, note 115 (arguing that up to ninety percent of cryptocurrency transactions are transfers between mining pools to miners or transfers between wallets and have no true economic value; meaning Silk Road would account for a much higher portion of true transactions over this period).

[45] *See generally* Nathaniel Popper, *Lost Passwords Lock Millionaires Out Of Their Bitcoin Fortunes*, NEW YORK TIMES (Jan. 12, 2021), https://www.nytimes.com/2021/01/12/technology/bitcoin-passwords-wallets-fortunes.html.

[46] *Id*.

[47] Alun John et al., *China's Top Regulators Ban Crypto Trading And Mining*, REUTERS (Sep. 24, 2021, 1:49 PM), https://www.reuters.com/world/china/china-central-bank-vows-crackdown-cryptocurrency-trading-2021-09-24.

Union.[48] However, an overnight devaluation of 10 – 30 % would negate any of the saved transaction costs.

Environmental factors could also negatively affect the viability of cryptocurrency transactions. Cryptocurrency transactions currently require a proof of work process to validate any transaction in the blockchain.[49] Given the decentralized nature of the blockchain, anyone with a computer can compete to provide the proof. Higher prices of cryptocurrencies lead to more miners attempting to enter the market. As only one miner is successful in solving the proof, all the other miners work is wasted. It is estimated that each Bitcoin transaction consumes 707 kwH from miners attempting to generate the correct solution. [50] It is estimated that the total amount of energy expended on confirming cryptocurrency transactions on the blockchain dwarfs the total annual energy consumption of Argentina.[51] This waste consumes resources that could be used for non-crypto purposes. Crypto miner demand for graphics cards, SSDs, and other computer parts have contributed to a significant supply crunch that has affected consumers and businesses over the last two years.[52] Cloud service providers, such as Microsoft, have removed free or restricted free product tiers due to abuse from crypto miners.[53]

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[48] It should be noted here that cryptocurrency transaction fees are variable based on demand to be included on the blockchain. For example, if you are the only person who is attempting to buy a pack of gum with your Bitcoin on a Sunday night, the transaction fees will be low. On the other hand, if a thousand other people are attempting to buy a pack of gum at the same exact time, the transaction fees will increase dramatically. In April 2021, a spike up to $60 per transaction was recorded during a particularly volatile point. *See Fees Per Transaction*, BLOCKCHAIN, https://www.blockchain.com/charts/fees-usd-per-transaction (last visited Feb. 14, 2022).

[49] In the proof of work concept, a miner uses computing power to verify the validity of bitcoin transactions by checking dozens of variables, including address, name, and timestamps. Once verified, the miners compete with each other to be the first to be validated. This process involves solving a cryptographic puzzle. Once solved, the winning miner receives an amount of cryptocurrency, and the block is linked to previous blocks on the chain. *See* Renee Cho, *Bitcoin's Impacts On Climate And The Environment*, COLUMBIA CLIMATE SCHOOL: STATE OF THE PLANET (Sep. 20, 2021), https://news.climate.columbia.edu/2021/09/20/bitcoins-impacts-on-climate-and-the-environment.

[50] *Id*.

[51] *Id*.

[52] *See e.g. Inside The GPU Shortage: Why You Still Can't Buy A Graphics Card*, PC MAG (Oct. 7, 2021), https://www.pcmag.com/news/inside-the-gpu-shortage-why-you-still-cant-buy-a-graphics-card.

[53] *See e.g.* Vijay Machiraju, *Change In Azure Pipelines Grant For Public Projects*, MICROSOFT: AZURE DEVOPS (Feb. 18, 2021) https://devblogs.microsoft.com/devops/change-in-azure-pipelines-grant-for-public-projects.

Another risk posed to investors in cryptocurrency is the shifting legal landscape regarding how cryptocurrency transactions are treated across the globe. There is no unified approach to cryptocurrency transactions. Many countries are just now enacting laws regarding the taxation of cryptocurrency, and whether cryptocurrency should be legal at all. In addition to China, other countries such as Colombia, Egypt, Morocco, and Vietnam have outright banned the use of cryptocurrencies.[54] Even in countries that have enacted cryptocurrency laws, the interpretation and rulemaking provisions are still in flux as discussed infra. Japan has recognized Bitcoin as a legal method of payment since 2017. Since then, the Japanese National Tax Agency has ruled that capital gains on transactions of virtual currency are considered "miscellaneous income" and taxed at a rate that is higher than taxes levied on stocks and other financial instruments.[55] Japan has also aggressively tracked cryptocurrency investors and traders, having created teams of analysts that watch electronic trading and match transactions to individual traders. Other governments, such as Argentina, have enacted a financial transactions tax that applies to cryptocurrencies. This applies a 0.6 percent tax to transactions carried out by intermediaries located in the country. The responsibility for paying the tax lies with the cryptocurrency exchanges and other platforms that facilitate trades.[56]

IV. The Legal Landscape

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[54] The success of any government mandated ban is debatable because "crypto trading takes place online without banks or governments being involved and cannot be strictly controlled by the authorities." Jasmin Kollmann et al., *Income Taxation Of Cryptocurrency – A Country Comparison*, TAXNOTES (Nov. 15, 2021), https://www.taxnotes.com/tax-notes-international/cryptocurrency/income-taxation-cryptocurrency-country-comparison/2021/11/15/7ckj8.

[55] Molly Zuckerman, *Japanese Crypto Investors To Pay Tax Of Up To 55 Percent On Profits*, COINTELEGRAPH (Feb. 9, 2018), https://cointelegraph.com/news/japanese-crypto-investors-to-pay-tax-of-up-to-55-percent-on-profits.

[56] *See* William Hoke, *Argentina Extends Financial Transactions Tax To Cryptocurrency*, TAXNOTES (Nov. 22, 2021), https://www.taxnotes.com/tax-notes-international/digital-economy/argentina-extends-financial-transactions-tax-cryptocurrency/2021/11/22/7cm74.

The legal status of cryptocurrency has proven difficult to regulate both in the United States and abroad. Part of the reason why regulators have been slow to apply rules to digital currency is the rapid ascent in the valuation of cryptocurrency. In 2013, the market capitalization of Bitcoin was only $10 billion.[57] Today it is over $1 trillion.[58]

a.   *IRS Notice 2014-21*

The IRS did not issue guidance regarding the tax implications of cryptocurrency transactions until 2014. This guidance described the application of federal income tax principles to transactions in convertible virtual currencies.[59] The IRS recognized virtual currency as operating like a real currency in that it functions as a medium of exchange, a unit of account, and a store of value.[60] The notice defined Bitcoin as a "convertible" virtual currency having an equivalent value in real currency, or that acts as a substitute for real currency.[61]

The sale or exchange of convertible virtual currencies, or the use of convertible virtual currencies to pay for goods or services in a real-world economy transaction, has tax consequences that may result in a tax liability.[62] For federal tax purposes, virtual currencies are treated as property, not as money, and general tax principles applicable to property transactions apply.[63] A taxpayer who receives virtual currency as payment for goods or services must include the fair market value of the currency measured in U.S. dollars when computing gross income.[64]

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[57] BRITO, 1.
[58] Bitcoin now represents a fraction of the market cap of all cryptocurrencies, which cumulatively is approximately $2.5 trillion. *See* COINMARKETCAP, https://coinmarketcap.com (last visited Feb. 14, 2022).
[59] 2014 IRB LEXIS 238 (I.R.S. Mar. 25, 2014).
[60] *Id*.
[61] *Id*.
[62] *Id*.
[63] *Id*.
[64] *Id*.

The net earnings of "mining" virtual currency are treated in the same manner. The basis of any virtual currency is the fair market value of the currency at the date of receipt.[65]

The IRS Notice also clarified the tax implications of receiving cryptocurrency as an employee or independent contractor in exchange for the performance of services. Receipt of virtual currency in either scenario is measured in U.S. dollars based on the fair market value of the currency at the time it is received.[66] Any virtual currency received is subject to the relevant self-employment or federal withholding taxes.[67]

b.   *IRS Rev. Rule 2019-24, Hard Forks and Airdrops*

In 2019, the IRS published Rev. Rul. 2019-24 which discussed the tax implications of evolving cryptocurrency practices, namely forking[68] and airdropping.[69] Generally, a taxpayer is in receipt of cryptocurrency on the date and time it is recorded in the ledger.[70] However, if the taxpayer is not able to exercise dominion and control over the cryptocurrency then he has not received the currency for tax purposes.[71] A scenario where this would apply is if a new cryptocurrency fork is created but the cryptocurrency exchange the taxpayer uses does not yet support the new fork.[72]

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[65] *Id*. The IRS further states that this is computed based on the value of any virtual currency on an exchange. The IRS does not define what an exchange is. Since cryptocurrency spot prices can vary by exchange, this apparently leaves some flexibility to the taxpayer when computing fair market value.

[66] Any individual, such as Eric Adams, the incoming mayor of New York City, should be advised to study the risks of accepting a highly volatile virtual currency in lieu of wages. The value could drastically differ between the date of receipt and the date of conversion. *See* Kellie Mejdrich and David Giambusso, *Eric Adams Wants Bitcoin Payments As NYC Mayor*, POLITICO (Nov. 4, 2021, 5:21 PM), https://www.politico.com/news/2021/11/04/eric-adams-bitcoin-mayor-519604.

[67] 2014 IRB LEXIS 238 (I.R.S. Mar. 25, 2014).

[68] Forking is unique to distributed ledger technology, occurring when a cryptocurrency on a ledger undergoes a protocol change resulting in a permanent diversion from the existing ledger. *See* Treas. Rev. Rul. 2019-24.

[69] *Id*. Airdropping is a means of distributing units of cryptocurrency to the ledger addresses of users. Often used after a fork to distribute new cryptocurrency to users of the previous coin.

[70] *Id*.

[71] *Id*. *See also Commissioner v. Glenshaw Glass Co*., 348 U.S. 426, 431 (1955).

[72] *Id*.

Further tax issues arise because a hard forked currency does not eliminate a taxpayer's "old" coins on the previous ledger. An example of this occurred in 2017 when Bitcoin fragmented into two separate chains, Bitcoin and Bitcoin Cash.[73] This resulted in holders of pre-split Bitcoins acquiring new Bitcoin Cash currency in addition to keeping their original Bitcoin holdings.[74]

Legislation has been proposed to deal with the tax consequences of forked cryptocurrency. In May 2021, Congressman Tom Emmer proposed a bill, H.R. 3273, which would make adjustments to the tax treatment of hard forked cryptocurrencies.[75] The legislation would exempt from gross income any amount earned from the receipt of a forked virtual currency.[76] It would also provide a safe harbor provision by eliminating any penalties or additions to tax with respect to an underpayment or understatement of tax that is attributable to the taxpayer's attempt to comply with the tax treatment of virtual currency. An additional safe harbor provision would eliminate penalties for failure to file a return or report or make a payment of tax to the extent that such failure is attributable to the filing or payment requirements relating to the receipt of virtual currency.[77]

The benefit of the legislation is that it would simplify the reporting requirements for taxpayers who receive a forked cryptocurrency as a result of their holding the original coin. Forked coins can be highly volatile in price so a taxpayer may have to report an ascension of wealth that either undervalues or overvalues the actual cost of the currency. Since there is no guarantee that the forked coin will ever gain acceptance, the value of the coin may decline in

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[73] *See generally Hard Forks And Soft Forks Explained*, BINANCE (Aug. 24, 2021), https://academy.binance.com/en/articles/hard-forks-and-soft-forks.
[74] *Id.*
[75] H.R. 3273, 117th Cong. (2021).
[76] *Id.*
[77] *Id.*

value significantly.[78] Further, cryptocurrency forks occur when members of the currency's community disagree on the direction to take the coin.[79] The result of the disagreement is two coins that in aggregate contain the value of the pre-forked coin. This is conceptually similar to a pro rata stock split which has been held by the Supreme Court to not constitute a realization event.[80]

Tracking and identifying these forks and splits would not be impossible for an entity such as the IRS to achieve. Like the Japanese government[81], the IRS already does employ internal investigation teams and other third parties to analyze and match anonymous cryptocurrency wallets to taxpayers. The IRS Criminal Investigation division has seized $3.5 billion in cryptocurrency, accounting for 93 percent of the agency's seizures.[82] While this is largely criminal-related seizures, the capacity exists for the IRS to closely monitor blockchain transactions of all types and match exchange data to individual taxpayers.

c. *H.R. 3684 Cryptocurrency Broker Rules*

The previously discussed IRS rulemaking clarified a few basic questions surrounding cryptocurrency transactions. First, cryptocurrency is treated as property. Second, forks and airdrops create an ascension to wealth when they have been constructively received by the taxpayer. However, that still left much work to construct a functional taxing regime for cryptocurrency.

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[78] David Kemmerer, *Airdrop Taxes 101: What Investors Need To Know*, CRYPTOTRADER.TAX (Nov. 10, 2021), https://cryptotrader.tax/blog/airdrop-taxes.

[79] *See* Binance, *supra*, note 73.

[80] *See Eisner v. Macomber*, 252 U.S. 189, 219, 40 S. Ct. 189, 197 (1920).

[81] *See* Zuckerman, *supra*, note 55.

[82] Mary Browne, *IRS Criminal Investigation Touts Crypto Success In Annual Report*, TAXNOTES (Nov. 22, 2021), https://www.taxnotes.com/tax-notes-federal/cryptocurrency/irs-criminal-investigation-touts-crypto-success-annual-report/2021/11/22/7cmdk.

The decade-plus of cryptocurrency evolution has seen the emergence of "decentralized finance" companies, such as BlockFi and Coinbase, which help facilitate cryptocurrency payments and offer solutions for securing e-wallets used by taxpayers to hold their digital assets. These companies have received little guidance from the government regarding the type and amount of information that needs to be collected from individuals who opt to use their services.

To remedy some of these emergent issues, H.R. 3684 included provisions regarding cryptocurrency taxation. These provisions target two distinct areas: how to define a broker of cryptocurrency for tax purposes, and how to deal with individuals who receive cryptocurrency as part of their trade or business.

i. *Adjustments to IRC § 6045*

The Infrastructure Investment and Jobs Act of 2021 included provisions which updated the definition of cryptocurrency brokers. The new provisions define a digital asset as "any digital representation of value which is recorded on a cryptographically secured distributed ledger or any similar technology as specified by the Secretary."[83] The definition of a broker is expanded to include "any person who (for consideration) is responsible for regularly providing any service effectuating transfers of digital assets on behalf of another person."[84][85] Any entity qualifying as a broker is required to furnish a return showing any transfers during a calendar year which occurred in an account maintained by the broker.[86]

Under the new law, digital assets (such as cryptocurrencies) are now specified securities and subject to reporting under section 6045 of the Internal Revenue Code.[87] Any entity which

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[83] I.R.C. § 6045(c)(1) (2021).
[84] *Id*.
[85] After the passage of H.R. 3684, a bi-partisan coalition introduced legislation to further tweak the definition of a broker under section 6045 to read as "any person who (for consideration) stands ready in the ordinary course of a trade or business to effect sales of digital assets at the direction of their customers." H.R. 6006, 117th Cong. (2021).
[86] *Id*.
[87] I.R.C. § 6045 (2021).

qualifies as a broker under the new rules must furnish a Form 1099-B to report basis and holding periods of any qualifying digital asset.[88] This could potentially result in a deluge of reporting due to the expanded definition of who qualifies as a broker, whereas under the previous rules a broker was defined as someone who "(for a consideration) regularly acts as a middleman with respect to property or services."[89]

ii. *Adjustments to IRC §6050l*

H.R. 3684 included additional provisions for reporting cryptocurrency transactions for any individual engaged in a trade or business. IRC § 6050(l) requires transaction reporting for any person who is engaged in a trade or business, and receives, in the course of such trade or business, more than $10,000 in cash in one transaction (or two or more related transactions).[90] These individuals are required to obtain the name, address, and TIN of the person from whom the cash was received, the amount of cash received, and the date and nature of the transaction.[91] The final version of H.R. 3684 extended this reporting provision to digital assets (as defined in IRC § 6045(g)(3)(D)).[92]

While section 6045 focuses primarily on reporting requirements for exchanges, section 6050(l) is designed to require reporting for businesses in peer-to-peer cryptocurrency transactions. These changes could be difficult to implement for businesses who have not previously obtained the required reporting information from their customers. Individuals who are accepting cryptocurrency in furtherance of a trade or business will have to keep detailed accounting records to avoid any allegations of structuring of related transactions. Initial

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[88] Marie Sapirie, *Implementing The New Crypto Reporting Guidance*, TAXNOTES (Nov. 22, 2021), https://www.taxnotes.com/tax-notes-today-federal/information-reporting/implementing-new-crypto-reporting-guidance/2021/11/22/7clzs.
[89] *Id.*
[90] I.R.C. § 6050l (2021).
[91] *Id.*
[92] *Id.*

payments in excess of $10,000 must be reported within 15 days of its receipt.[93] Payments less

than $10,000 must be aggregated with subsequent payments made within one year of the initial

payment.[94] If the aggregate amount exceeds $10,000, a report must be filed within 15 days of the

payment that exceeds the $10,000 aggregate threshold.[95]

The above reporting requirements could cause anyone who utilizes cryptocurrency

payments as part of their trade or business some headaches. The aggregate payment threshold

may result in businesses requiring identifying information to be provided for even small

transactions if they anticipate that the peer-to-peer transactions will exceed $10,000 in a year. It

may also be difficult for businesses to obtain identification documents from parties as digital

asset transactions are conducted over the internet. Since many individuals who conduct

transactions in virtual currency do so precisely because of the anonymity and ease-of-use of

digital wallets, it is possible that these rules will limit the attractiveness of cryptocurrency

payments.

The addition of digital assets under the section 6050(l) regime also means that criminal

liability may be applied for violations of the statute. These penalties can include fines of up to

$25,000 for an individual ($100,000 for a corporation), as well as up to five years in jail for

willful violations of the provision.[96] To mitigate against these risks, cryptocurrency transactions

may shift towards verified wallet addresses to help streamline reporting requirements.[97] Others

have suggested a safe-harbor approach that involves third party audits of transactions and

identities.[98]

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[93] *See* Treas. Reg. § 1.6050l-1(b)
[94] *Id.*
[95] *Id.*
[96] *See* Sapiri, *supra*, note 88.
[97] *Id.*
[98] *Id.*

V. Compliance

a.   *Where the New Rules Fall Short*

The newly amended I.R.C. § 6045A requires transferring brokers provide reporting information for intra-broker transfers so the receiving broker can comply with reporting requirements. This is a similar requirement to what is used for broker-to-broker transfers of other securities.[99] However, the new rules do not set up a framework for these reporting requirements and the IRS will have to further develop these rules. This problem is compounded by the state of reporting, where brokers currently only have a wallet address.[100] It can be difficult for a broker to distinguish whether the transferee is a broker or a non-broker under the current reporting rules.[101]

The reporting requirements for exchanges can be complicated by the difficulty in determining cost basis. While many users utilize e-wallets to streamline their transactions, cryptocurrencies can be transferred peer-to-peer without a third-party intermediary.[102] For example, a taxpayer could have purchased 100 BTC in 2011, stored them on a personal hard drive and forgot about it for 10 years. If the taxpayer in 2021 goes to a third-party, such as BlockFi, to transfer his bitcoin to a more secure e-wallet, BlockFi has no way of knowing what the cost basis of those bitcoins are. BlockFi could require self-reporting from the taxpayer. BlockFi could also rely on forensic analysis to trace the bitcoins back to the point where the taxpayer acquired the coins and estimate a cost basis based on available information. Both of

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[99] *Id.*
[100] *Id.*
[101] *Id.*
[102] David Kemmerer, *How The 2021 Infrastructure Bill Impacts Crypto Taxes*, CRYPTOTRADER.TAX (Nov. 22, 2021), https://cryptotrader.tax/blog/how-the-2021-infrastructure-bill-impacts-crypto-taxes.

those methods have drawbacks that would necessitate some form of safe harbor to protect companies that perform reasonable due diligence.

The definition of who is a broker may also need further refinement. Under H.R. 3684, the definition of "broker" could potentially encompass anyone who facilitates a digital asset transfer. This could include both cryptocurrency miners and open-source developers.[103] Due to the nature of cryptocurrency mining and development, these entities do not have the ability to report customer information to the government because it is not collected.[104] It is unclear if, for instance, a cryptocurrency miner would even have the ability to collect any information about who receives their mined coins, due to the decentralized nature of the cryptocurrency mining process. A hardline approach could drive cryptocurrency mining and development either overseas or into grey or black markets.[105]

It is also questionable the effect these new reporting and compliance requirements will have on one of the key appeals to using cryptocurrency: the low cost to the user per transaction. Many cryptocurrency advocates point to the decentralized nature of the currency and the cheap transaction cost to the user as reasons to use a Bitcoin over sending money in a more traditional way, such as via Western Union or PayPal. The reason these costs are so low is because there is virtually no overhead that is passed on to the customer when a cryptocurrency transaction is completed. While it is difficult to calculate a per-transaction cost of compliance, the global financial services industry spent $180 billion in compliance costs in 2020.[106] Many of those costs incurred to comply with regulations are passed on to the consumer.

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[103] *Id.*

[104] *Id.*

[105] The proposed "Keep Innovation in America Act" would attempt to remedy this issue by clarifying the reporting requirement to only require voluntarily provided information from customers who the broker knows or has reason to know is not another broker. *See* H.R. 3273, 117th Cong. (2021).

[106] *Cost of Compliance Expected To Hit $181bn*, BANKING EXCHANGE (Apr. 13, 2020, 9:13 AM), https://www.bankingexchange.com/bsa-aml/item/8202-cost-of-compliance-expected-to-hit-181bn.

Legislation like H.R. 3684 that impose requirements on third parties who serve as intermediaries for cryptocurrency transactions will create additional costs for those service providers. While they may for a time choose to eat those costs to give them an advantage in customer acquisition, eventually those costs will be passed on to customers. It is unclear whether increased transaction costs will push customers away from regulated e-wallets and defi platforms, or sour the customer on cryptocurrency altogether.

b.   *Interactions With Existing Regulations*

There is currently a lack of guidance with how (or whether) other reporting laws will apply to cryptocurrency brokers. One potential point of conflict is with the Office of Foreign Asset Control ("OFAC").[107] Cryptocurrency brokers based in the United States will presumably be bound to follow OFAC guidance on not engaging with banned countries and foreign agents. For example, Cuba is a country that is designated by OFAC as subject to sanctions. It would be easy enough for an e-wallet provider to decline to do business with a Cuban national.

It becomes more difficult if the OFAC guidance were to be more broadly construed and state that business entities could not accept cryptocurrency that was mined within an OFAC listed country. Increasingly, cryptocurrency mining is being executed by pools of computers. These pools are decentralized, and theoretically anyone in the world can participate in a pool. It may be impossible for an e-wallet vendor to identify the exact location of every node that contributed computing power to the mining of any individual bitcoin.[108] It also may not make sense for the vendor to force the entity who is attempting to deposit the bitcoin to attest that no

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[107] OFAC is an arm of the US Department of the Treasury which administers and enforces economic sanctions against both foreign countries and foreign nationals. OFAC does this through, among other measures, maintaining a database of banned entities that US-based businesses must consult with prior to engaging in trade or business with a foreign entity. *See Office Of Foreign Assets Control – Sanctions Programs And Information*, DEPT. OF THE TREASURY, https://home.treasury.gov/policy-issues/office-of-foreign-assets-control-sanctions-programs-and-information (last visited Feb. 14, 2022).

[108] *See* Kemmerer, *supra*, note 102.

OFAC-listed entity helped mine the coin because they may not have access to that information either.

Even if it were possible to track the IP address of every single node that contributed to the mining of a coin, this creates other issues. If the e-wallet vendor declines to accept the cryptocurrency based on contribution from an OFAC-listed entity, it can still be freely exchanged over peer-to-peer networks outside of a licensed cryptocurrency broker. The initially rejected coin may pass through a number of clean hands before a new consumer brings the coin back to the e-wallet provider to attempt to deposit. Now the vendor has a choice to make. This was the same coin that was initially rejected due to compliance issues. Does the vendor reject the coin again or accept it this time? If it becomes generally accepted for cryptocurrency brokers to maintain a list of "banned" coins, every coin on that list becomes unusable for legitimate, tracked transactions. Even worse, consumers have no way of knowing if a coin they received from a colleague can even be deposited in their e-wallet until they attempt to deposit it.

Another issue that will face businesses that choose to accept transactions in cryptocurrency is that emerging tax law and accounting law are not in sync with each other. The Financial Accounting Standards Board has been even more hands-off in its approach to growing cryptocurrency concerns than the IRS has, only agreeing in December 2021 to take initial steps to investigate the issue.[109] Generally accepted accounting principles ("GAAP") do not provide guidance on how to handle transactions involving digital assets.[110] The American Institute of CPAs has issued nonbinding guidance that indicates businesses who are not considered

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[109] Nicola White, *Crypto, ESG Issues To Top Accounting Priority Research Agenda*, BLOOMBERG TAX (Dec. 15, 2021, 1:43 PM), https://news.bloombergtax.com/financial-accounting/crypto-esg-issues-to-top-accounting-priority-research-agenda.

[110] Nicola White, *MicroStrategy's Accounting Spat Reveals Void In Crypto Rules*, BLOOMBERG TAX (Jan. 31, 2022, 11:17 AM), https://news.bloombergtax.com/financial-accounting/microstrategys-accounting-spat-reveals-void-in-crypto-rules.

investment companies or broker dealers to treat held cryptocurrency as intangible assets.[111] However, this hands off approach has led companies to request guidance for how to account for cryptocurrency transactions, and has even led to regulatory action by the SEC.[112]

Any proposed rules by the FASB could change how businesses approach dealing with cryptocurrency transactions. A decision by the FASB to treat cryptocurrency holdings as an investment instead of an intangible asset or cash equivalent would also diverge with the tax treatment of cryptocurrency. While businesses are fully capable of applying divergent accounting and tax rules to their books, the question becomes whether businesses decide that the lack of conformity makes cryptocurrency not worth the hassle to accept or hold. Given the volatility that is inherent in these digital assets, the GAAP treatment of any digital holdings could have profound impacts on a company's quarterly earning statements, and the SEC has shown that it is not going to allow companies to hand wave away any dramatic losses attributed to cryptocurrency holdings.

Ultimately, the FASB's hesitancy and the evolving laws passed by Congress point to eventual SEC involvement. The question is what shape that takes. The SEC could treat cryptocurrency holdings similar to how they would treat a company's holdings of foreign currency or other assets and leave it at that. The SEC could also take a more involved role in cryptocurrencies themselves, attempting to regulate Bitcoin, Ethereum, and all other virtually traded coins and other digital assets on the market. It is unclear how the SEC would regulate this. The majority of these products are decentralized and have no board of directors or any other identifiable individual that has control of the issuance of these e-coins.

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[111] *Id.*
[112] *Id.*

c.   *The Transaction Problem*

Another question is how many transactions will actually fall within the rules of the overhauled digital asset tax regime. The attention given to cryptocurrency and other digital assets on financial news shows and other various media is outsized compared to the number of transactions that are actually made using various cryptocurrencies. Use of Bitcoin has averaged 250,000 confirmed transactions per day in 2021.[113] For comparison, it is estimated that there are approximately 1 billion global daily credit card transactions.[114] Cryptocurrencies have a long way to go to reach the level of market penetration of card-based transactions.

The number of transactions needs to be broken down further in order to capture what Bitcoin is being used for. It is estimated that ninety percent of the daily Bitcoin transactions is "not tied to economically meaningful activity."[115] These transactions consist of cryptocurrency movements between mining pools and miners, as well as Bitcoin holders who are transferring holdings between multiple wallets.[116] Of the remaining ten percent, three-quarters of these transactions are linked to exchanges and "on-line wallets, OTC desks, and large institutional traders."[117] This leaves 2.5 percent of total volume devoted to transactions for goods and services.[118] Taking the average daily transaction volume, it can be estimated that approximately 6,250 global daily Bitcoin transactions are for goods and services.

Based on the above analysis, the current rules to enforce cryptocurrency tax compliance only target a tenth of all cryptocurrency transactions. While these targeted transactions

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[113] *Confirmed Transactions Per Day*, BLOCKCHAIN.COM, https://www.blockchain.com/charts/n-transactions (last visited Feb. 14, 2022).

[114] Erica Sandberg, *The Average Number Of Credit Card Transactions Per Day*, CARDRATES.COM (Nov. 9, 2020), https://www.cardrates.com/advice/number-of-credit-card-transactions-per-day-year/

[115] Igor Makarov and Antoinette Schoar, *Blockchain Analysis Of The Bitcoin Market*, https://mitsloan.mit.edu/shared/ods/documents?PublicationDocumentID=7981 (last visited Feb. 14, 2022).

[116] *Id.*

[117] *Id.* Most of this activity is likely cryptocurrency speculation.

[118] *Id.*

encompass the majority of economically meaningful activity, there are still huge pools of transactions which are not captured by the regulations. This is problematic because speculators can move their cryptocurrency holdings into the unmonitored gray markets to mask transactions and obfuscate the basis of their cryptocurrency holdings. Without better tracking procedures in place, any attempts at enforcing reporting requirements could turn out to be toothless.

VI. <u>Conclusion</u>

Cryptocurrency's regulatory road has been rocky to date, and that road does not appear to be getting any smoother. Governments and regulatory bodies have slowly been starting to address issues inherent with a decentralized, intangible currency. These rules vary widely across nations and regulatory agencies. Some countries are choosing to ban cryptocurrency transactions altogether. Others are attempting to regulate transactions that occur through exchanges or e-wallets, treating cryptocurrency as a security.

It is not clear that any of these methods will be successful. The decentralized nature of cryptocurrency means that transactions can occur via peer-to-peer networks that do not require a third party to facilitate. Banning cryptocurrency transactions just removes these transactions off the regulated market. Attempting to regulate transactions also needs to consider the risk that overregulation will just push most transactions off exchanges and into peer-to-peer transactions that are more difficult to track.

The current regulations implemented by the IRS probably do not go far enough to capture cryptocurrency activity. The rules only target approximately ten percent of cryptocurrency transactions and turns a blind eye to most daily cryptocurrency transactions that take place. While most of these transactions likely do not have economic value and are akin to transferring

cryptocurrency from one pocket to another, the blind eye to these transactions leaves a large space for actors to obfuscate their cost basis and any potential gain from cryptocurrency. Ultimately, these rules will have to be refined to at least identify who is engaging in these "off-market" transactions. Without this data, the reporting requirements contained within the new digital asset regulations will be difficult to implement and the revenue-raising aim of the law will be frustrated.