

**A FORK IN THE BLOCKCHAIN: INCOME TAX AND THE
BITCOIN/BITCOIN CASH HARD FORK**

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On August 1, 2017, the Bitcoin blockchain experienced a hard fork. The hard fork, spurred by concerns over Bitcoin’s scalability, resulted in an entirely new blockchain and an accompanying new cryptocurrency: Bitcoin Cash. However, the new blockchain relies on the history of transactions recorded on the old blockchain. Consequently, at the time of the hard fork, every holder of Bitcoin could have received an equal amount of Bitcoin Cash. This sudden receipt of Bitcoin Cash poses a variety of tax problems. Should the acquired cryptocurrency qualify as income? If so, how should taxpayers calculate this income? Current income taxation law suggests the Bitcoin/Bitcoin Cash hard fork produced gain that, for the most part, was immediately realized. Thus, most taxpayers that received Bitcoin Cash at the time of the hard fork should have reported its value as income to the Internal Revenue Service. However, due to a variety of practical concerns, including a lack of sufficient analogous situations, cryptocurrency’s volatility, and the IRS’s refusal to follow relevant regulations related to the taxation of “treasure trove,” perhaps it would be best to reconsider this conclusion and explore a solution that permits taxation of Bitcoin Cash upon a subsequent sale.

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I. INTRODUCTION

This Recent Development explores the relationship between blockchain hard forks and income tax law. A blockchain is “an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.”¹ The technology’s most familiar application is with cryptocurrencies² like Bitcoin.

The Bitcoin blockchain recently experienced a hard fork, creating the Bitcoin Cash blockchain.³ A hard fork occurs when a

¹ Marco Iansiti & Karim R Lakhani, *The Truth About Blockchain*, HARV. BUS. REV., Jan.–Feb. 2017, at 118, <https://hbr.org/2017/01/the-truth-about-blockchain> (last visited Mar. 13, 2018).

² Cryptocurrency is most frequently associated with blockchain, but one may define the former as any digital or virtual currency securely transacted with cryptography. *What Is Cryptocurrency. Guide for Beginners*, COINTELEGRAPH, <https://cointelegraph.com/bitcoin-for-beginners/what-are-cryptocurrencies> (last visited Mar. 13, 2018).

³ See Shannon Liao, *Bitcoin Has Split in Two, So You Can Have Double the Cryptocurrency*, THEVERGE (Aug. 1, 2017, 1:45 PM), <https://www.theverge.com/2017/8/1/16075276/bitcoin-cash-hard-fork-coinbase>.

portion of a blockchain's users make a significant, permanent change to the underlying technical protocol, producing a divergent, parallel blockchain.⁴ The founding of the new blockchain, which maintains a replica of the old blockchain's history of transactions and current cryptocurrency holdings, can produce a new cryptocurrency in an amount equivalent to the holdings on the original blockchain.⁵

Income tax law indicates that the recent Bitcoin/Bitcoin Cash hard fork resulted in taxable income for most holders of Bitcoin by inducing their receipt of Bitcoin Cash.⁶ But blockchains and cryptocurrency may not be compatible with current income taxation doctrine, and hard forks revive longstanding questions about the tax treatment of sudden windfalls.⁷ Perhaps, as a practical matter, the hard fork did not produce taxable income. At the very least, these lingering concerns necessitate guidance from the Internal Revenue Service.

Part II of this Recent Development introduces the underlying technologies at issue—blockchains and cryptocurrencies—and addresses the nature of blockchain forks, focusing on the recent Bitcoin/Bitcoin Cash hard fork. Part III reviews fundamental income tax law that may be relevant for the treatment of hard forks. Part IV explores the application of this income tax law to the Bitcoin/Bitcoin Cash hard fork. Part V concludes by offering a few illustrations of competing viewpoints and suggesting that the IRS should issue guidance to clarify how it will approach this developing issue.

II. THE UNDERLYING TECHNOLOGY: BLOCKCHAINS, CRYPTOCURRENCY, AND HARD FORKS

Blockchain technology is famously difficult to describe.⁸ That experience may be caused by a lack of “handy metaphors” to aid the

⁴ See *infra* notes 40–55 and accompanying text.

⁵ See *infra* notes 56–71 and accompanying text.

⁶ See *infra* notes 115–152 and accompanying text.

⁷ See *infra* notes 153–171 and accompanying text.

⁸ For a series of short explanations from blockchain experts, see Paul Bischoff, *What Is Blockchain? 10 Experts Attempt to Explain Blockchain in 150 Words or*

description.⁹ Cars were “horseless carriages,” and vaporizers were “e-cigarettes.”¹⁰ No such “conceptual placeholder” exists for blockchain.¹¹

However, a legal assessment of blockchain phenomena requires a basic understanding of the technology. This part provides brief explanations of blockchains, cryptocurrencies, and hard forks. Then, this part reviews the particular details of the Bitcoin/Bitcoin Cash hard fork.

A. *What Is a Blockchain?*

Blockchain technology is undoubtedly having a moment. What was once a fairly obscure system has now entered the popular financial-technological zeitgeist. Wall Street has a blockchain “obsession” that will change “the future of banking.”¹² IBM advertises its blockchain technology as a powerful tomato, diamond, and package tracking system.¹³ Blockchains present a wealth of information and opportunity that inspires passionate “lunatics.”¹⁴ It seems that “virtually everyone has heard the claim that blockchain will revolutionize business and redefine companies and economies.”¹⁵ And amid this storm of literature and press, the value of blockchain’s most famous accompanying technology, cryptocurrency,¹⁶ always looms. The four largest cryptocurrencies (Bitcoin, Ethereum, Ripple, and Bitcoin Cash) currently have a

Less, COMPARITECH (Mar. 17, 2017), <https://www.comparitech.com/blog/information-security/what-is-blockchain-experts-explain>.

⁹ ADAM GREENFIELD, RADICAL TECHNOLOGIES 116 (2017).

¹⁰ *Id.*

¹¹ *Id.*

¹² Howard Yu, *What Wall Street’s Obsession with Blockchain Means for the Future of Banking*, FORTUNE (July 11, 2016), <http://fortune.com/2016/07/10/wall-street-blockchain-technology-banking/>.

¹³ See IBM, *IBM Blockchain: The Blockchain Built for Smarter Business*, YOUTUBE (Jan. 31, 2018), <https://www.youtube.com/watch?v=3PaNc5rdGZQ>.

¹⁴ Dave Balter, *Why the Blockchain Creates Lunatics.*, STARTUP GRIND (Nov. 7, 2017), <https://medium.com/startup-grind/why-the-blockchain-creates-fanatics-lunatics-obsessive-compulsives-and-attracts-those-with-add-215bbb5d8e50>.

¹⁵ Iansiti & Lakhani, *supra* note 1.

¹⁶ In the next subsection, this Recent Development discusses the precise nature of cryptocurrency and how it relates to blockchain technology. See *infra* Section II.B.

combined market capitalization of approximately \$335 billion.¹⁷ There is money to be made here.

Despite the great intrigue, “[a]lmost all verbal conversations involving the blockchain begin and end the same way: in perplexity.”¹⁸ This observation alone should not trouble the blockchain fanatics; game-changing technology does not need to be widely understood to achieve ubiquitous uptake or generate value.¹⁹ However, the legal problem presented within this Recent Development requires a general understanding of the technology at issue, however difficult it may be to describe.

Again, a blockchain is “an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.”²⁰ When two parties complete a transaction on the system, their transaction is timestamped and cryptographically signed by both parties.²¹ An algorithm converts the recorded data into a unique “hash value,”²² and this hash value is then propagated to all nodes²³ operating the system.²⁴ Each node independently verifies the transaction by checking the transaction history of the involved parties.²⁵ Verified, but still unconfirmed, transactions are then aggregated into a “block,” signified by another

¹⁷ COINMARKETCAP, <https://coinmarketcap.com/> (last visited March 22, 2018).

¹⁸ GREENFIELD, *supra* note 9, at 115.

¹⁹ See Aaron Smith, *What Internet Users Know About Technology and the Web*, PEW RESEARCH CTR. (Nov. 25, 2014), <http://www.pewinternet.org/2014/11/25/web-iq/>; Jon Evans, *Technology Is Magic, Just Ask the Washington Post*, TECHCRUNCH (July 25, 2015), <https://techcrunch.com/2015/07/25/technology-is-magic-just-ask-the-washington-post/>.

²⁰ Iansiti & Lakhani, *supra* note 1.

²¹ GREENFIELD, *supra* note 9, at 122.

²² A “hash value” is a unique code that signifies the exact nature and conditions of the transaction. GREENFIELD, *supra* note 9, at 123.

²³ “Nodes” are the individual computers that comprise the blockchain’s network and carry out the blockchain’s processes. *Blockchain*, INVESTOPEDIA, <https://www.investopedia.com/terms/b/blockchain.asp> (last visited Mar. 13, 2018).

²⁴ GREENFIELD, *supra* note 9, at 123–24. If the blockchain is public, any user could be operating a node.

²⁵ GREENFIELD, *supra* note 9, at 124. For example, each node would verify that, at the time of the transaction, the party transferring the property had previously received the property and had not transferred it to someone else. *Id.*

algorithmically generated value.²⁶ Each node then competes to confirm the block against the history of prior blocks.²⁷ Upon confirmation, the block is “appended to an ever-growing stack of such records.”²⁸ The collective stack of records is the blockchain.²⁹

B. *What Is a Cryptocurrency?*

A blockchain alone is form without content. While the process of creating and verifying blockchain transactions is intriguing, the real star of the blockchain hype is the prototypical object of such transactions: cryptocurrency.

In general, cryptocurrency is “a digital or virtual currency” that allows transactions to be secured through digital encryption.³⁰ A bit of history: many attempted, but failed, to create a digital currency in the 1990s.³¹ Then, in 2009, Satoshi Nakamoto created Bitcoin.³² In a white paper released the previous year, Nakamoto described Bitcoin as a “peer-to-peer version of electronic cash [that] would allow online payments to be sent directly from one party to another without going through a financial institution.”³³ Nakamoto supported this vision with the blockchain process, the secret to Bitcoin’s success.³⁴ The transactions revolve around “electronic coins” defined by “a chain of digital signatures.”³⁵

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ For the sake of brevity, this explanation ignores many of the finer details. Of particular importance is “mining.” Mining is a process that incentivizes the work of creating a blockchain, and it serves as the method of generating new coins on cryptocurrency blockchains. *Id.* at 129. However, while essential to understanding blockchain technology, this information is not needed to discuss the taxation of hard forks.

³⁰ *What Is Cryptocurrency. Guide for Beginners, supra note 2.*

³¹ *Id.*

³² *Id.*

³³ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN, <https://bitcoin.org/bitcoin.pdf>.

³⁴ *Id.*

³⁵ *Id.* at 2.

Put simply, cryptocurrency units are “just lines of computer code that hold monetary value.”³⁶ There are no physical coins to hold, but they “behave” like coins.³⁷ You can exchange them, via the blockchain, for goods and services.³⁸ You can store them in a digital “wallet.”³⁹ One can ignore the underlying blockchain technology and largely treat cryptocurrency as if it were cash. However, the technology presents a few problems quite unlike any predicament produced by traditional, tangible currency.

C. *Hard Forks Generally*

A “fork” occurs “when a blockchain diverges into two potential paths forward.”⁴⁰ Some forks are a natural occurrence.⁴¹ Two nodes may verify blocks “at nearly the same time,” causing the network to temporarily diverge.⁴² The fork resolves through the addition of subsequent blocks; the nodes eventually converge on the longest chain of fully verified and accepted transactions.⁴³ Some of these forks can last just a few minutes.⁴⁴ They are merely a byproduct of the blockchain’s distributed consensus model.⁴⁵

However, some forks occur because “diverse participants need to agree on common rules.”⁴⁶ These rules comprise the software that

³⁶ Paul Gil, *What Are Bitcoins? How Do Bitcoins Work?*, LIFEWIRE, <https://www.lifewire.com/what-are-bitcoins-2483146> (last updated Mar. 7, 2018).

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ Amy Castor, *A Short Guide to Bitcoin Forks*, COINDESK (May 16, 2017), <https://www.coindesk.com/short-guide-bitcoin-forks-explained/>.

⁴¹ *Id.*

⁴² *Id.* For example, if a node located in New York and a node located in California both verified a block at nearly the same time, nodes verifying subsequent blocks would need to choose which chain to continue. The network could become temporarily divided between these two chains.

⁴³ *Id.*

⁴⁴ David Farmer, *What Is a Bitcoin Fork?*, COINBASE: THE COINBASE BLOG (July 27, 2017), <https://blog.coinbase.com/what-is-a-bitcoin-fork-cba07fe73ef1>.

⁴⁵ Castor, *supra* note 40.

⁴⁶ *Id.*

governs how the blockchain is constructed.⁴⁷ When nodes adopt different rules, they produce a fork.⁴⁸ Some forks are backwards compatible; nodes operating under the old rules will still recognize blocks produced under the new rules as valid.⁴⁹ These forks are “soft.”⁵⁰

But forks can also be “hard,” meaning the rule change is not backward compatible.⁵¹ This type of fork can pose a proper political problem, as some users may feel that the change is unnecessary.⁵² Nodes that refuse to upgrade will not see the new transactions as valid, forcing the blockchain to split.⁵³ Nodes operating under the old protocol continue to append blocks onto the original chain, while nodes operating under the new system start to append blocks onto a new chain. The result: two simultaneously developing blockchains with an identical history.

Hard forks cannot be categorized as strictly “good” or “bad” phenomena; they mostly represent the difficulty of cultivating consensus among a blockchain’s operators. At their worst, they confuse current and potential users, and they threaten to change fundamental aspects of the technology that were thought to be immutable.⁵⁴ But at their best, they foster competition and experimentation.⁵⁵ The Bitcoin/Bitcoin Cash hard fork demonstrates these qualities.

⁴⁷ Jamie Redman, *A Simple Guide to What Bitcoin Forks Are and Why They Happen*, BITCOIN: NEWS (Nov. 5, 2017), <https://news.bitcoin.com/a-guide-to-what-a-bitcoin-fork-is-and-why-they-happen/>.

⁴⁸ *Id.*; see also Castor, *supra* note 40.

⁴⁹ Castor, *supra* note 40. Bitcoin’s introduction of Segregated Witness produced a soft fork. See Redman, *supra* note 47; discussion *infra* Section II.D.

⁵⁰ Castor, *supra* note 40.

⁵¹ *Id.*

⁵² *Id.* Not all hard forks are controversial. Redman, *supra* note 47. Some hard forks of the Bitcoin blockchain were the products of widespread consensus throughout the community. *Id.*

⁵³ Castor, *supra* note 40.

⁵⁴ David Dinkins, *Industry Leaders Give Perspective on Bitcoin Forks: Some Advantages, Many Problems*, COINTELEGRAPH (Oct. 25, 2017), <https://cointelegraph.com/news/industry-leaders-give-perspective-on-bitcoin-forks-some-advantages-many-problems>.

⁵⁵ *Id.*

D. *The Bitcoin/Bitcoin Cash Hard Fork*

On August 1, 2017, the Bitcoin blockchain experienced a hard fork.⁵⁶ The split produced another blockchain accompanied by another cryptocurrency: Bitcoin Cash.⁵⁷ Bitcoin Cash was created with the intention of “fulfilling the original promise of Bitcoin as ‘Peer-to-Peer Electronic Cash.’”⁵⁸ The issue was Bitcoin’s scalability.⁵⁹ Bitcoin’s protocol allows for a block size of one megabyte.⁶⁰ Before the split, the system could support about three transactions per second.⁶¹ This speed may sound fast, but due to the volume of transactions, users were waiting days for confirmations.⁶² A long shot from quickly settled cash transactions.

Instead of increasing the size of a block, Bitcoin’s developers had introduced a change called Segregated Witness.⁶³ Segregated Witness, or SegWit, essentially increased block size limits by rearranging the data to be processed in transactions.⁶⁴ However, some developers felt that SegWit was an inadequate solution because it could only increase each block from one megabyte to 1.7 megabytes.⁶⁵ They wanted a greater increase to account for growth and to better facilitate the use of cryptocurrency as digital cash.⁶⁶ In response, this group of developers raised the block size limit to eight megabytes.⁶⁷ Because this change was not backwards compatible, nodes that refused to implement the new size limit no longer

⁵⁶ Liao, *supra* note 3.

⁵⁷ *Id.*

⁵⁸ BITCOINCASH, <https://www.bitcoincash.org/> (last visited Jan. 19, 2018).

⁵⁹ *Id.*; Redman, *supra* note 47.

⁶⁰ BITCOINCASH, *supra* note 58.

⁶¹ *Id.*

⁶² *Id.*

⁶³ Alyssa Hertig, *Bitcoin Cash: Why It’s Forking the Blockchain and What That Means*, COINDESK (Aug. 1, 2017), <https://www.coindesk.com/coindesk-explainer-bitcoin-cash-forking-blockchain/>.

⁶⁴ Jamie Redman, *The Segregated Witness Concept: A ‘Turning Point’ for Bitcoin?*, BITCOIN: NEWS (Dec. 9, 2015), <https://news.bitcoin.com/segregated-witness-concept-turning-point-bitcoin/>.

⁶⁵ BITCOINCASH, *supra* note 58.

⁶⁶ *Id.*

⁶⁷ *Id.* The developers have also introduced other features, but these seem like secondary considerations.

recognized blocks verified by nodes that did adopt it. This hard fork split the network and produced Bitcoin Cash.

The Bitcoin/Bitcoin Cash hard fork demonstrates the impact of a shared history. Because the fork duplicated the Bitcoin blockchain, it also duplicated the coins.⁶⁸ Thus, every Bitcoin owner at the time of the split automatically became an owner of an equal amount of Bitcoin Cash.⁶⁹ On the day of the fork (August 1, 2017), one Bitcoin was worth approximately \$2,840.⁷⁰ Bitcoin Cash immediately started trading around \$290 and closed around \$380 that same day.⁷¹ If someone held a substantial amount of Bitcoin at the time of the hard fork, they could have incurred a significant gain upon their receipt of Bitcoin Cash. What remains to be determined is how that gain should affect the holder's income taxes.

Bitcoin's potential tax implications may be too often ignored. In 2015, only 802 individuals reported a Bitcoin-related transaction to the IRS.⁷² Past years bore similar counts.⁷³ However, these reports seem dubious. Even in 2015, the number of daily Bitcoin transactions typically surpassed 100,000.⁷⁴

Consequently, the IRS is currently investigating what it believes could be rampant cryptocurrency-fueled tax evasion.⁷⁵ Of course, when dealing with a purely digital currency that emphasizes

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Bitcoin*, COINMARKETCAP, <https://coinmarketcap.com/currencies/bitcoin/> (last visited Jan. 19, 2018).

⁷¹ *Bitcoin Cash*, COINMARKETCAP, <https://coinmarketcap.com/currencies/bitcoin-cash/> (last visited Jan. 19, 2018). As of March 26, 2018, Bitcoin Cash is trading around \$920. *Id.*

⁷² Jeff John Roberts, *Only 802 People Told the IRS About Bitcoin-Lawsuit*, FORTUNE (Mar. 19, 2017), <http://fortune.com/2017/03/19/irs-bitcoin-lawsuit/>.

⁷³ *Id.*

⁷⁴ BLOCKCHAIN, <https://blockchain.info/charts/n-transactions?timespan=all> (last visited Feb. 23, 2018). Additionally, one survey indicates that nearly 3 million Americans own Bitcoin. C. Edward Kelso, *Survey: 60% of Americans Have Heard of Bitcoin, 5% Own*, BITCOIN: NEWS (Jan. 24, 2018), <https://news.bitcoin.com/survey-60-of-americans-have-heard-of-bitcoin-5-own/>. These numbers do not add up.

⁷⁵ Nathaniel Popper, *Bitcoin Users Who Evade Taxes Are Sought by the I.R.S.*, N.Y. TIMES (Nov. 18, 2016), <https://www.nytimes.com/2016/11/19/business/dealbook/irs-is-seeking-tax-evaders-who-use-bitcoin.html>.

anonymity and the lack of a central guarantor (i.e., a bank or government), it should be no surprise that American taxpayers may rely on decreased visibility to escape the reach of their least favorite government agency. Cryptocurrency also bears a strong association with libertarian-capitalist ideology,⁷⁶ and the libertarian-minded might appreciate the occasional opportunity to avoid paying taxes.⁷⁷ Hard forks, perhaps even more so than regular dealings in cryptocurrency, may present such an opportunity. The exact amount of tax dollars at stake will largely depend on the application of income tax doctrine.

III. REVIEW OF RELEVANT INCOME TAX DOCTRINE

Tax law presents a diverse set of rules that may be relevant to hard forks. This part considers the definition and categorization of income and the parameters of its taxation.

A. *Income*

Through the Sixteenth Amendment, Congress has the “power to lay and collect taxes on incomes, from whatever source derived.”⁷⁸ The Internal Revenue Code imposes such a tax on all individuals’ “taxable income.”⁷⁹ “Taxable income” means “gross income” minus any statutorily permissible deductions.⁸⁰ “Gross income” refers to “all income from whatever source derived.”⁸¹ The Code wields a broad conception of income. It never offers a precise definition, but it explicitly includes compensation for services, gains from dealings

⁷⁶ Jim Edwards, *Bitcoin Proves the Libertarian Idea of Paradise Would Be Hell on Earth*, BUS. INSIDER (Dec. 10, 2013), <http://www.businessinsider.com/bitcoin-libertarian-paradise-would-be-hell-on-earth-2013-12>; Corin Faife, *Live Free or Mine: How Libertarians Fell in Love with Bitcoin*, COINDESK (Oct. 8, 2016), <https://www.coindesk.com/live-free-or-mine-how-libertarians-fell-in-love-with-bitcoin/>.

⁷⁷ See *Taxes*, LIBERTARIAN PARTY, <https://www.lp.org/issues/taxes/> (“[W]e think that government forcing people to pay taxes is inherently wrong If Americans prefer to spend their money on other things, then they should be free to do that also.”).

⁷⁸ U.S. CONST. amend. XVI.

⁷⁹ 26 U.S.C. § 1 (2018).

⁸⁰ *Id.* § 63.

⁸¹ *Id.* § 61.

in property, rents, royalties, dividends, and much more.⁸² Moreover, gross income is not restricted to money; it can also include property and services.⁸³

The Supreme Court has provided guidance for the determination of income. Since 1955, the leading case on the meaning of “income” has been *Commissioner v. Glenshaw Glass Co.*⁸⁴ There, the Court determined that income includes “instances of undeniable accessions to wealth, clearly realized, and over which the taxpayers have complete dominion.”⁸⁵ In another case, the Court stated that Congress, through the Code, intended “to use the full measure of its taxing power” in order “to tax all gains except those specifically exempted.”⁸⁶ That principle seems to hold, even in unusual scenarios.

B. *Treasure Trove and Unsolicited Property*

The tax code readily provides for the assessment of explicitly delineated categories of income.⁸⁷ These categories bear similar qualities that coincide with a lay conception of income. For example, “compensation for services” (i.e., wages), “dividends,” and “rents” all indicate a foreseeable return. “Royalties” and “gains from dealings in property” reflect a sense of taxpayer control; the gain arrives in part via the taxpayer’s agency. To some degree, these factors of foreseeability and control relate back to an older definition of income provided by the Supreme Court in *Eisner v. Macomber*.⁸⁸ There, the Court determined that income “may be defined as the gain derived from capital, from labor, or from both combined, provided it be understood to include profit gained through a sale or conversion of capital assets.”⁸⁹ However, not all forms of income share these

⁸² *Id.*

⁸³ Treas. Reg. 1.61-1(a) (1960) (“Gross income includes income realized in any form, whether in money, property, or services.”).

⁸⁴ See *Comm’r v. Glenshaw Glass Co.*, 348 U.S. 426 (1955).

⁸⁵ *Id.* at 431.

⁸⁶ *James v. United States*, 366 U.S. 213, 218–19 (1961) (quotations omitted).

⁸⁷ 26 U.S.C. § 61 (2018).

⁸⁸ See *Eisner v. Macomber*, 252 U.S. 189 (1920).

⁸⁹ *Id.* at 207 (quotations omitted).

characteristics.⁹⁰ Sudden and unexpected windfalls, for which the taxpayer bears little to no responsibility, may also be income.⁹¹

Along these lines, the Code's accompanying regulations briefly discuss "treasure trove."⁹² "Treasure trove, to the extent of its value in United States currency, constitutes gross income for the taxable year in which it is reduced to undisputed possession."⁹³ The regulation provides no practical guidance on what qualifies as treasure trove, but the name alone suggests that it refers to a sort of found property.

Cesarini v. United States, a well-known case from the District Court for the Northern District of Ohio, provides limited guidance.⁹⁴ There, taxpayers discovered about \$4,500 in cash within a piano purchased at auction.⁹⁵ The Court determined that such a finding was a treasure trove within the scope of the regulation and qualified as income in the year of its discovery.⁹⁶ This decision reinforces the idea that found property produces a gain that is taxable prior to any subsequent sale.

Another case, *Haverly v. United States*, presents a similar scenario of unintended gains.⁹⁷ There, the taxpayer, an elementary school principal, received unsolicited textbook samples from a publisher.⁹⁸ The taxpayer donated the textbooks to the school library

⁹⁰ *Glenshaw Glass* demonstrates the inadequacy of this definition. There, the Court held that punitive damages qualify as income, and they certainly do not relate to labor or capital in a traditional sense. *Glenshaw Glass Co.*, 348 U.S. at 430.

⁹¹ See 26 U.S.C. § 74(a) (2018) ("[G]ross income includes amounts received as prizes and awards."); Treas. Reg. § 1.61-14(a) (as amended in 1993) (stating that gross income includes "treasure troves"). *But see* 26 U.S.C. § 102(a) (2018) ("Gross income does not include the value of property acquired by gift, bequest, devise, or inheritance.").

⁹² Treas. Reg. § 1.61-14(a) (as amended in 1993).

⁹³ *Id.* The analysis may turn on "undisputed possession," a phrase that implicates the doctrine of constructive receipt. This concept is discussed in the following section. See *infra* Section III.C.

⁹⁴ See *Cesarini v. United States*, 296 F. Supp. 3 (N. D. Ohio 1969).

⁹⁵ *Id.* at 4.

⁹⁶ *Id.* at 7–8.

⁹⁷ See *Haverly v. United States*, 513 F.2d 224 (7th Cir. 1975).

⁹⁸ *Id.* at 225.

and claimed a charitable deduction for their value.⁹⁹ While the court did not characterize the taxpayer's gain as a treasure trove, the court did determine that receipt of the textbooks met all of the criteria for income set forth in *Glenshaw Glass Co.*¹⁰⁰ The court noted that the taxpayer's attempted deduction signaled the taxpayer's recognition of gain and their "complete dominion," and the court reasoned that mere receipt and possession of the textbooks produced an unquestionable "accession to wealth" that was "clearly realized."¹⁰¹ Thus, unsolicited property can qualify as income, even prior to any successive transfer of that property.

C. *Constructive Receipt*

A taxpayer's "complete dominion" over a potential gain might depend on the doctrine of constructive receipt. Under IRS regulations, income "not actually reduced to a taxpayer's possession" is nonetheless "constructively received" when "it is credited to his account, set apart for him, or otherwise made available so that he may draw upon it at any time, or so that he could have drawn upon it . . . if notice of intention to withdraw had been given."¹⁰² However, "income is not constructively received if the taxpayer's control of its receipt is subject to substantial limitations or restrictions."¹⁰³

Accordingly, insufficient notice may be a substantial limitation. *Davis v. Commissioner*, a case decided by the United States Tax Court, demonstrates this principle.¹⁰⁴ There, a previous employer owed a taxpayer severance pay.¹⁰⁵ The employer notified the taxpayer in 1974 that a check would be mailed sometime in 1975.¹⁰⁶ In late December of 1974, the employer mailed the check in a certified letter to the taxpayer.¹⁰⁷ The carrier attempted to complete

⁹⁹ *Id.*

¹⁰⁰ *See id.* at 226–27.

¹⁰¹ *Id.* at 226.

¹⁰² Treas. Reg. § 1.451-2(a) (as amended in 1979).

¹⁰³ *Id.*

¹⁰⁴ *Davis v. Comm'r*, 37 T.C.M. (CCH) 42 (1978).

¹⁰⁵ *Id.* at *3.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

the delivery on December 31, but the taxpayer was not home.¹⁰⁸ The carrier left a note instructing the taxpayer to retrieve the letter from the carrier's office later that day.¹⁰⁹ The taxpayer returned home and read the note, but by then, the carrier's office had closed.¹¹⁰ They eventually retrieved the letter on January 2, 1975.¹¹¹ The IRS claimed the taxpayer had constructively received the income in 1974, but the taxpayer claimed the income was not realized until 1975.¹¹² The court reasoned that the taxpayer would have constructively received the funds but lacked sufficient notice of the attempted delivery, and this lack of notice constituted a substantial limitation of the taxpayer's control over the funds.¹¹³ Thus, the payment was not yet income.¹¹⁴

IV. NAVIGATING THE HARD FORK: APPLYING INCOME TAX DOCTRINE TO THE BITCOIN/BITCOIN CASH HARD FORK

As confusing as the Bitcoin/Bitcoin Cash hard fork may be, application of the available legal principles will determine whether or not the hard fork resulted in income. With a focus on the elements of income proposed in *Glenshaw Glass*,¹¹⁵ this part applies tax doctrine to the facts of the scenario and explores competing interpretations of the event. This part also addresses practical considerations that may alter the analysis.

A. *Accession of Wealth*

As previously discussed, every Bitcoin holder acquired an equal number of units in Bitcoin Cash at the time of the hard fork.¹¹⁶ The

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at *4.

¹¹¹ *Id.*

¹¹² *Id.* at *7.

¹¹³ *Id.* at *10.

¹¹⁴ *See id.* at *14.

¹¹⁵ *Comm'r v. Glenshaw Glass Co.*, 348 U.S. 426, 431 (1955) (holding that income includes "instances of undeniable accessions to wealth, clearly realized, and over which the taxpayers have complete dominion").

¹¹⁶ Aaron Stanley, *Make Big Money on Bitcoin Cash? The IRS Might Be Watching*, COINDESK (Nov. 9, 2017), <https://www.coindesk.com/make-big-money-bitcoin-cash-irs-might-watching/>.

tax doctrine discussed thus far points toward a tentative conclusion that this influx of Bitcoin Cash should contribute toward a taxpayer's gross income.¹¹⁷

The acquisition of Bitcoin Cash at the time of the hard fork likely satisfies the elements outlined in *Glenshaw Glass Co.* The event produced an "accession of wealth" that—at least at first glance—seems "undeniable."¹¹⁸ Bitcoin Cash started trading around several hundred dollars when the hard fork occurred.¹¹⁹ Additionally, even before the cryptocurrency existed, Bitcoin Cash futures were trading at a high price.¹²⁰ And since the hard fork, Bitcoin Cash has multiplied in value, much like Bitcoin.¹²¹ The new coins evidently brought an accession of wealth. Granted, the fluctuating price complicates the accession's precise calculation. Taxpayers may struggle to determine the fair market value of their new property.¹²²

The Bitcoin Cash might best be characterized as treasure trove. At the very least, it has the appearance of "free money."¹²³ It surely came to many Bitcoin holders unexpectedly and without the intervention of their own agency; it does not resemble the typical categories of income described in Section 61 of the tax code. Then again, it does not closely resemble the found property of *Cesarini* either. The entire process seems too deliberate for Bitcoin Cash to be considered "found" by its recipients.¹²⁴

¹¹⁷ See Tyson Cross, *Yes, the Bitcoin Hard Fork Really Is Taxable Income. Here's What You Need to Know.*, FORBES (Oct. 17, 2017), <https://www.forbes.com/sites/tysoncross/2017/10/17/yes-the-bitcoin-hard-fork-really-is-taxable-income-heres-what-you-need-to-know/#139451962d07>; David Klasing, *Crypto-Currency – Hard Forks and What They Mean for Your Tax Bill*, TAX LAW OFFICE OF DAVID W. KLASING: THE TAX LAW BLOG (Jan. 16, 2018), <https://klasing-associates.com/crypto-currency-hard-forks-mean-tax-bill/>.

¹¹⁸ *Glenshaw Glass Co.*, 348 U.S. at 431.

¹¹⁹ Around \$300 near August 1, 2012. *Bitcoin Cash*, *supra* note 71.

¹²⁰ Around \$400–\$500 in late July 2017. *Id.*

¹²¹ As of March 26, 2018, Bitcoin Cash is worth about \$900. *Id.* Bitcoin is worth about \$7,900. *Bitcoin*, *supra* note 70.

¹²² See Cross, *supra* note 117.

¹²³ *Id.*

¹²⁴ For Bitcoin Cash's developers, it was entirely deliberate! Perhaps they would have to account for their new property without reference to sudden windfalls and treasure troves. To be fair, although it is conceivable that Bitcoin

However, perhaps the hard fork produced no value at all. Some have suggested that the value of Bitcoin Cash was siphoned away from Bitcoin's value.¹²⁵ Support for Bitcoin Cash could have detracted support from Bitcoin, and this shift possibly affected both coins' value. If there is any merit to this theory, whatever accession of wealth occurred may be deniable. However, it seems equally possible that the fork added to the value of both coins by demonstrating the resiliency of the blockchains and their communities.¹²⁶ While hard forks may signal unrest and disagreement, the survival of both cryptocurrencies and their subsequent rise in value could suggest an invigoration of investor confidence. Unfortunately, none of these claims are empirically verifiable. It is difficult to explain the shifts in a market, even after the fact.

Here, it may be prudent to explore an alternative framework analogous to certain corporate activities. It has been suggested, and disputed, that the hard fork represents a scenario similar to a stock split.¹²⁷ Stock splits are not ordinarily taxable events; they produce no income.¹²⁸ But, like a two-for-one stock split, a unit was doubled by the hard fork; holders of Bitcoin received an equal amount of Bitcoin Cash. That fact indicates some degree of similarity, if only at the surface. Conversely, the divergence of the network and the creation of two entirely separate blockchains do not sound like a

Cash's developers acted in self-interest, there is no indication that Bitcoin Cash was created solely for the purpose of creating wealth out of thin air. Their purpose was clearly stated. But in light of recent discourse on the regulation of cryptocurrency, it has been suggested that new developers could use blockchain forks for the purpose of fundraising. See Jacob J., *Developers Begin Turning to Hard Forks for Fundraising Rather than ICOs*, COINTELEGRAPH (Nov. 19, 2017), <https://cointelegraph.com/news/developers-begin-turning-to-hard-forks-for-fundraising-rather-than-icos>. These events may raise their own regulatory questions.

¹²⁵ See J.P. Buntinx, *Bitcoin Cash Is Not Free Money*, THE MERKLE (July 30, 2017), <https://themerke.com/bitcoin-cash-is-not-free-money/>.

¹²⁶ Then again, perhaps the hard fork actually reduced market confidence by demonstrating the fragility of the Bitcoin network's integrity.

¹²⁷ See Klasing, *supra* note 117.

¹²⁸ See *Eisner v. Macomber*, 252 U.S. 189, 207–08 (1920).

stock split. Stock splits do not result in the construction of an entirely separate entity.

Another corporate analogy could be made. A hard fork may be more similar to a corporate spin-off. In a spin-off, “a division of a corporation becomes an independent company and stock of the new company is distributed to the corporation’s shareholders.”¹²⁹ The distribution is *pro rata*, so the amount of stock a shareholder receives will depend on the amount of stock they hold. Under the tax code, this distribution results in no gain for the shareholder, provided certain conditions are met.¹³⁰ Ordinarily, one such condition requires the distributing corporation to distribute all of its stock in the subsidiary.¹³¹ This corporate division might more closely resemble the hard fork than a mere stock split. The hard fork produced a real, material division of the network; two separate blockchains, like two separate corporations, persisted in the aftermath. The spin-off analogy lacks the aspect of replication present in the stock split analogy, but the *pro rata* distribution still bears some similarity to the hard fork’s production of Bitcoin Cash.

Granted, these comparisons are not controlling. They may be useful for understanding the consequences of the hard fork and exploring how taxation of the event might be most appropriately conducted, but these analogies hold no precedential value. Bitcoin and Bitcoin Cash are not stock in a corporation. Any analogy to corporate activities will necessarily be strained, and a legal solution must be found elsewhere.

B. *Clear Realization*

To constitute income, a taxpayer’s gain from Bitcoin Cash would have to be “clearly realized.”¹³² *Haverly* demonstrates that the

¹²⁹ *Spin-Off*, BLACK’S LAW DICTIONARY (10th ed. 2014).

¹³⁰ 26 U.S.C. § 355(a) (2018).

¹³¹ *Id.* § 355(d); Treas. Reg. § 1.355-2(e)(2) (as amended in 2011).

¹³² *Comm’r v. Glenshaw Glass Co.*, 348 U.S. 426, 431 (1955). Ordinarily, to be “realized,” a gain must be incurred in connection to a transaction. *See* 26 U.S.C. § 1001(a) (2018); 26 CFR 1.1001-1(a) (2017). However, as *Cesarini* and *Haverly* demonstrate, receipt or discovery of property outside of the exchange context can also trigger realization. *See Haverly v. United States*, 513 F.2d 224, 225 (7th Cir. 1975); *Cesarini v. United States*, 296 F. Supp. 3, 4 (N.D. Ohio 1969).

mere receipt and possession of valuable property indicates a clear realization event.¹³³ Many taxpayers surely “possessed” Bitcoin Cash immediately after the fork. But *Haverly* dealt with an entirely different commodity. Physical textbooks are more predictable; they have a clear price that is not ordinarily subject to erratic change. The cryptocurrency markets of 2017 demonstrated with absolute clarity that these commodities, however defined and however functional, are incredibly volatile.¹³⁴ Perhaps a clear realization should depend on a reasonably stable value. Bitcoin Cash experienced a significant rise in value so soon after its release that selecting August 1, 2017, as the moment of realization and calculating one’s income with respect to that date seems especially arbitrary.¹³⁵ Allowing the taxpayer to defer taxation of that additional value indefinitely, while insisting upon taxation of the initial value upon receipt, seems unusual.

One must also consider the opposite, theoretical scenario: what if Bitcoin Cash had traded for several hundred dollars throughout August and then crashed to mere pennies in September? If the IRS expects taxpayers to pay a tax on the gain incurred at the precise moment of the hard fork, taxpayers may owe a high amount of tax that fails to reflect their ultimate financial status.¹³⁶ Other commodities could conceivably behave similarly, but the volatility of cryptocurrencies currently present a special danger within the hard fork context. A future hard fork of some other blockchain could bear this result. It does not seem fair to impose a tax on what could

¹³³ *Haverly*, 513 F.2d at 225.

¹³⁴ Bitcoin has been the star of the show. Around January 2017, it was worth about \$1,000. *Bitcoin*, *supra* note 70. It peaked around \$20,000 in mid-December 2017. *Id.* Now, around March 2018, it has slid down to around \$7,900. *Id.* Bitcoin Cash and many other cryptocurrencies exhibited a similar pattern, though less money was on the line. *See Bitcoin Cash*, *supra* note 71.

¹³⁵ In August, Bitcoin Cash was trading for several hundred dollars per coin. *Bitcoin Cash*, *supra* note 71. By December, each coin was trading for several thousand dollars. *Id.*

¹³⁶ These hypothetical taxpayers may be able to partially offset that gain with a subsequent loss, but this loss is likely restricted or subject to significant limitations. *See* 26 U.S.C. § 165(c) (2018) (restricting ordinary losses for individuals); *id.* § 1211(b)(1) (limiting capital losses for individuals).

be a profoundly short-lived investment, especially when some users may have objected to its creation from the very start.

These concerns demonstrate the inherent weakness of a tax code that has to link the accession of wealth to a particular moment in time. The realization of a gain or loss depends, of course, upon a realization “event.” But the most appropriate time feels like a contested choice; the volatility of the asset at issue threatens the certainty of the calculation. Can one really say if and how a recipient of Bitcoin Cash was necessarily better off, in quantifiable terms, at the precise moment of the receipt? Retrospectively, one can see that the market assigned Bitcoin Cash a modest price at the time of its creation, and it has since benefitted from the cryptocurrency craze of last year. However, these observations are contingent on the specific technological parameters at issue and the current historical moment. Subsequent hard forks, with different technologies and different investors and different times, may not bear similar results. Another hard fork could produce a cryptocurrency that sees either a much more significant increase or decrease in price. Thus, perhaps it would be better to wait until it has been sold before assessing any tax. The potential danger of sudden depreciation following immediate taxation would be mitigated, and the law would not draw a dangerous division between immediately realized and soon-to-be-realized gain.

C. *Complete Dominion*

The question of “complete dominion”¹³⁷ seems clearer. Undoubtedly, some taxpayers will encounter “substantial limitations” in accessing their Bitcoin Cash. The first hurdle might be Bitcoin Cash’s relation to third-party exchanges.¹³⁸ If a user cannot access their Bitcoin Cash because they have entrusted their Bitcoin to a third-party that does not honor the Bitcoin Cash blockchain, then this obstacle might be a substantial limitation to their control of the income.¹³⁹ For example, Coinbase, “the world’s most popular cryptocurrency exchange,” initially decided not to

¹³⁷ *Glenshaw Glass Co.*, 348 U.S. at 431.

¹³⁸ See Cross, *supra* note 117; Klasing, *supra* note 117.

¹³⁹ See Cross, *supra* note 117.

incorporate support for Bitcoin Cash into its system.¹⁴⁰ If it were not for Coinbase's eventual change of heart, their users that held Bitcoin would not have been able to easily access their Bitcoin Cash.¹⁴¹

However, notice of the hard fork could become relevant. If a user knew that their exchange would not immediately support Bitcoin Cash and had the opportunity to withdraw their Bitcoin prior to the fork, the IRS could determine that the holder had constructively received it. The Bitcoin Cash would be "set apart"¹⁴² for the taxpayer at the time of fork and would be fully accessible later on, provided the exchange eventually supports it. The onus might have been on the taxpayer to pursue the windfall from the beginning.

Notice may play many roles. Surely many holders of Bitcoin are passive investors and not finely attuned to the cryptocurrency scene.¹⁴³ They may be entirely unaware of the fork, and they may remain unaware of the fork for years to come.¹⁴⁴ *Davis v. Commissioner* implies that insufficient notice of income renders constructive receipt impossible.¹⁴⁵ So, if some investors do not notice their receipt of Bitcoin Cash, *Davis* would lead to the conclusion that this receipt does not produce income.

One must also consider the many users who have lost access to their Bitcoins through mistake, neglect, or any number of reasons.¹⁴⁶ The misplacement of Bitcoins by an unfortunate investor is not an unheard of tragedy, as people can lose the data associated with their

¹⁴⁰ Liao, *supra* note 3.

¹⁴¹ *Bitcoin Cash FAQ*, COINBASE, <https://support.coinbase.com/customer/portal/articles/2911542-bitcoin-cash-faq> (last visited Jan. 19, 2018).

¹⁴² Treas. Reg. § 1.451-2(a) (as amended in 1979).

¹⁴³ See Cross, *supra* note 117.

¹⁴⁴ Significant hard forks are widely discussed in the cryptocurrency community, as many of these footnotes collectively indicate, but not so much elsewhere. It seems reasonable to believe that some investors may still not be entirely aware of the hard fork.

¹⁴⁵ *Davis v. Comm'r*, 37 T.C.M. (CCH) 42, at *10 (1978).

¹⁴⁶ See Jeff John Roberts & Nicolas Rapp, *Exclusive: Nearly 4 Million Bitcoins Lost Forever, New Study Says*, FORTUNE (Nov. 25, 2017), <http://fortune.com/2017/11/25/lost-bitcoins/>.

accounts or their coins.¹⁴⁷ It is difficult to imagine a more substantial limitation on one's control over the Bitcoin Cash subsequently awarded in these unfortunate cases, but then again, perhaps this scenario is more easily disposed of as a clear non-accession of wealth and a complete lack of realization. Nevertheless, at least these users dodged the tax bill.

D. *Summation of the Doctrinal Application*

It is likely that the hard fork was, legally, a taxable event.¹⁴⁸ Regardless of the precise nature of the fork's impact on the value of the coins, it had the appearance of creating "free money."¹⁴⁹ Users realized this accession of wealth via their receipt and possession of the coins. Furthermore, the IRS has a strong record of taxing "free money," regardless of the form it takes.¹⁵⁰ Treasure troves, prizes, awards, and similar forms of income trigger immediate realizations under the law; taxpayers do not always have the luxury of waiting until a sale.¹⁵¹ While the analogy to found property may be imperfect, treating the windfall of Bitcoin Cash as a treasure trove seems to be the most appropriate choice.

In determining the precise amount of gain realized, the inherent ambiguities should warrant a conservative approach. When taxpayers realize the income of treasure troves, the amount realized should equal the fair market value at the time of acquisition.¹⁵² Cryptocurrency markets present a variety of uncertainties that caution against relying on this particular value, but consistency in

¹⁴⁷ Rich McCormick, *Hard Drive Worth \$7.5 Million Is Buried in a UK Dump*, THEVERGE (Nov. 29, 2013, 3:42 AM), <https://www.theverge.com/2013/11/29/5156246/7-5-million-bitcoins-on-hard-drive-thrown-away-in-uk>. Of course, this user would not have answered to the IRS, but the point remains valid.

¹⁴⁸ See Cross, *supra* note 117; Klasing, *supra* note 117.

¹⁴⁹ Cross, *supra* note 117.

¹⁵⁰ *Id.*

¹⁵¹ See 26 U.S.C. § 74(a) (2018) ("[G]ross income includes amounts received as prizes and awards."); Treas. Reg. § 1.61-14(a) (as amended in 1993) (stating that gross income includes "treasure troves"). *But see* 26 U.S.C. § 102(a) (2018) ("Gross income does not include the value of property acquired by gift, bequest, devise, or inheritance.").

¹⁵² See Treas. Reg. § 1.61-14(a) (as amended in 1993); *Cesarini v. United States*, 296 F. Supp. 3, 7–8 (N.D. Ohio 1969).

the application of tax rules outweighs these concerns. The law should be predictable, even if a particular market is not.

Calculating the time of realization should follow a similar method. Although Bitcoin Cash presented an opportunity for trading futures prior to its release and the market proved erratic in the months following the fork, the simplest solution available under current tax law is that the gain was realized on August 1, 2017, as soon as users could trade the Bitcoin Cash itself. Every Bitcoin holder, provided they had sufficient notice, could have accessed their Bitcoin Cash at that moment. That moment, though not without problems, does provide a clear instance of possession.

E. Similar Problems in Practice: The Limitations of the Treasure Trove Regulation

The strength of the doctrinal analysis depends upon an assumption that Bitcoin Cash is some form of found property. If it is, *Cesarini* and the treasure trove regulation indicate that it should be taxed in the year of its receipt. As discussed, this framework gives rise to a major issue: appropriately discerning a quantifiable gain, a choice complicated by the erratically shifting value of cryptocurrency. However, this concern may be mitigated by practicalities.

Even if the assumptions underlying this approach are true, the IRS may ignore the treasure trove regulation. As tax scholars Lawrence Zelenak and Martin McMahon note, the “treasure trove regulation has received remarkably little judicial and administrative attention in the more than 40 years since it was promulgated.”¹⁵³ “No court has ever relied on the regulation to include in gross income any noncash found property. Nor has the treasure trove regulation received much attention in the rulings of the Internal Revenue Service.”¹⁵⁴

Moreover, the IRS has consistently ignored the regulation when assessing the income of the many taxpayers that “find” valuable

¹⁵³ Lawrence A. Zelenak & Martin J. McMahon, Jr., *Professors Look at Taxing Baseballs and Other Found Property*, 84 TAX NOTES 1299, 1301 (1999).

¹⁵⁴ *Id.*

property.¹⁵⁵ “[T]here are no cases or rulings in which the IRS has attempted to apply the treasure trove regulation” to tax “commercial fishermen, big game hunters, prospectors and miners, [or] professional treasure hunters” on their found property, despite the regulation’s apparent applicability.¹⁵⁶ If the IRS ignores the regulation in these contexts, then perhaps it should continue to do so when determining the appropriate treatment of Bitcoin Cash.

Although Zelenak and McMahon contemplated in 1999 that “the number of significant finds of liquid assets must be vanishingly small, and what finds there are must be overwhelmingly of the stumbled-over variety,” they recommended that gain in such scenarios be calculated upon a subsequent disposition.¹⁵⁷ Hard forks potentially present a new variety of these “finds,”¹⁵⁸ and it seems possible that they could become increasingly common.¹⁵⁹ Perhaps it is time to more seriously consider reevaluating the treatment of found property so that the law and IRS practices may better align.

V. MOVING FORWARD ON UNCLEAR TERMS

The hard fork presents a variety of issues that cannot be cleanly resolved. This part attempts to illustrate the application of the various tax concepts to hard forks via a hypothetical scenario, and it concludes with remarks on the need for federal guidance.

A. *Exploring a Hypothetical Scenario*

For the sake of clarity, this analysis demands the discussion of a brief hypothetical that might illustrate the tax treatment of hard forks

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* at 1301–02. As Zelenak and McMahon note, “many people devote considerable effort to searching for valuable property.” *Id.* Thus, the treasure trove regulation should still apply, despite the lack of any “pure windfall.” *Id.* All of these taxpayers should realize income when their finds are “reduced to undisputed possession.” Treas. Reg. § 1.61-14(a) (as amended in 1993). The lack of a pure windfall, of course, resonates with the problem at hand.

¹⁵⁷ Zelenak & McMahon, *supra* note 153, at 1304.

¹⁵⁸ For a discussion regarding the extent to which any cryptocurrency is actually a liquid asset, see Research Team, *Cryptocurrency – How Liquid Is the Market?*, STRATEGIC COIN, <http://strategiccoin.com/cryptocurrency-liquid-market/> (last visited Feb. 24, 2018).

¹⁵⁹ See Jacob J., *supra* note 124.

under different understandings of the relevant income tax doctrine. Consider the following baseline facts: You own one Bitcoin. You keep your cryptocurrency with a third-party exchange that has announced, prior to the Bitcoin/Bitcoin Cash hard fork, that it will immediately support Bitcoin Cash. Your third-party exchange has also made you, without any doubt, aware of the hard fork and the extent of its technical implications. At the time of the Bitcoin Cash hard fork on August 1, 2017, you receive one Bitcoin Cash. This Bitcoin Cash may be immediately sold on an open market at the price of \$300. On December 1, 2017, you may sell your Bitcoin Cash for \$1400. On May 1, 2018, you may sell it for \$100.¹⁶⁰

Assume you sell your Bitcoin Cash on August 1, 2017, immediately at the time of the hard fork. This scenario is the absolute simplest. Under almost any interpretation of tax law, you will realize a gain of \$300 in 2017, fully includable in your gross income. Assuming the Bitcoin Cash was income upon receipt because it is a treasure trove subject to *Cesarini* and realized like the textbooks of *Haverly* (hereinafter referred to as the primary interpretation), you would immediately realize \$300 as the property entered your undisputed possession. You would also take a basis¹⁶¹ of \$300 in your Bitcoin Cash, resulting in a gain¹⁶² of \$0 upon sale. However, assuming the Bitcoin Cash was not income upon receipt—due to either (1) a less strict interpretation of the treasure trove regulation, (2) concern for cryptocurrency’s known volatility,

¹⁶⁰ Given the current progression of Bitcoin Cash’s price, it seems extraordinarily unlikely that it will be priced this low on May 1, 2018. But to demonstrate the ramifications of varying interpretations of tax law, this price is assumed.

¹⁶¹ “Basis is the amount of your investment in property for tax purposes.” INTERNAL REVENUE SERV., PUBLICATION 551: BASIS OF ASSETS 1 (2016) <https://www.irs.gov/pub/irs-pdf/p551.pdf>. Ordinarily, the tax basis of property is the cost of such property. 26 U.S.C. § 1012(a) (2018). However, when cost is inapplicable, the fair market value of the property may be used instead. *See* INTERNAL REVENUE SERV., *supra* at 6. Moreover, the regulations indicate that the “tax cost” of property may be included in basis. *See* Treas. Reg. 1.61-2(d)(2) (as amended in 2003) (noting the basis of property received as compensation increases by the amount included in gross income); Zelenak & McMahon, *supra* note 153, at 1304 n.66.

¹⁶² The gain, or loss, from the sale of property is “the excess of the amount realized” over the basis. 26 U.S.C. § 1001(a) (2018).

or (3) the assumption that the hard fork should be treated similarly to a nontaxable stock split or spin-off (hereinafter referred to as the secondary interpretation)—you would still realize \$300 in 2017. But you would not realize it immediately upon receipt. Instead, you would take a basis of \$0,¹⁶³ and you would realize a gain of \$300 through the subsequent sale. The difference in these approaches lies primarily in the assignment of the basis, but the immediacy of the sale renders that concern harmless. Ultimately, you walk away with an undisputed gain of \$300, an amount that clearly reflects your income.

Now, assume you instead sell your Bitcoin Cash on December 1, 2017, for \$1400. Under the primary interpretation, you would realize a gain of \$300 on August 1 and assign a basis of \$300 to your Bitcoin Cash. Then, through the sale, you would realize a gain of \$1100 on December 1. Thus, you would report a gain of \$1400 for 2017. Under the secondary interpretation, you reach essentially the same result. You would assign a basis of \$0 to your Bitcoin Cash at the time of the hard fork, and then you would realize a gain of \$1400 at the time of the sale. Here again, you would report a gain of \$1400 for 2017.

Next, assume you sell your Bitcoin Cash on May 1, 2018. Here, a more noticeable divergence occurs. Under the primary interpretation, as in the last scenario, you would realize a gain of \$300 on August 1 and assign a basis of \$300 to your Bitcoin Cash. You would then report that gain of \$300 for 2017. Upon selling your Bitcoin Cash for \$100, you would then realize a loss of \$200, which may only be accounted for in 2018. Under the secondary interpretation, you would take a basis of \$0 in your Bitcoin Cash at the time of the hard fork, and then you would sell it on May 1 and

¹⁶³ A basis of \$0 fully defers taxation until a subsequent disposition, significantly eroding any sense of unfairness due immediate taxation followed by exceptional volatility. A \$0 basis can also be justified by a strict statutory reading of the tax code's method of basis calculation, which refers to basis as the "cost" of the property. *See id.* § 1012(a); Zelenak & McMahon, *supra* note 153, at 1304 n.66. With no cost for receiving Bitcoin Cash, perhaps the proper basis is \$0. However, a middle ground could be reached by assigning a reduced basis; this method would allow taxation to be split between the year of a receipt and the year of a subsequent sale.

realize a gain of \$100. You would never realize a loss, and you would report a gain of \$100 for 2018. Essentially, the secondary interpretation provides taxpayers with an opportunity to defer any taxation related to the hard fork. With large enough holdings of Bitcoin Cash, the deferred tax may be a significant benefit.

Finally, assume, in an alternate reality, that Bitcoin Cash plummeted to \$0 on September 1, 2017.¹⁶⁴ Perhaps investors collectively concluded that hard forks are too much trouble, or Bitcoin Cash's developers unveiled further changes to the protocol that were substantial failures. Given the conditions of the market, you could not possibly sell your Bitcoin Cash. Under the primary interpretation, you would still realize a \$300 gain immediately at the time of the hard fork, and you would record that gain for the year. Under the secondary interpretation, you would record no gain or loss.¹⁶⁵ This scenario, which could be played out through some future hard fork, presents a significant issue. Under the primary interpretation, a taxpayer could be asked to pay a significant tax bill for receiving property that quickly became useless. This understanding of tax doctrine does not provide a seemingly fair result under these conditions.

B. *Conclusion: Clear Problems with Little Guidance*

Blockchains and cryptocurrencies are tremendously innovative. Despite being unfamiliar and unintuitive, these technologies could play a significant role in the near future. Accordingly, as others have suggested, it is imperative that the IRS issue guidance on how taxpayers should treat the hard fork and its byproducts for tax purposes.¹⁶⁶ Without guidance, even honest taxpayers will face difficulties trying to account for the many possible variables and interpretations. Blockchains and cryptocurrencies are bestowing unusual gifts and burdens upon their users, and it is difficult to liken them to any particular precedent.

¹⁶⁴ Imagine, if you like, a citation here to an article entitled "Bitcoin Cash? More like Bitcoin Crash!"

¹⁶⁵ Losses for individuals are restricted by 26 U.S.C. § 165(c), and this scenario would not satisfy its conditions. Because Bitcoin Cash is not a security, this scenario would not trigger a loss under 26 U.S.C. § 165(g).

¹⁶⁶ Cross, *supra* note 117; Klasing, *supra* note 117.

However, a few legal principles are evident. As long as the tax code continues to impose immediate realization upon sudden receipts of income, cryptocurrency produced by a blockchain hard fork should bear no exception. The cryptocurrency should contribute to a taxpayer's gross income in an amount equivalent to its fair market value at the time of the hard fork and for the year in which the hard fork occurred, provided the taxpayer had actual or constructive receipt of the cryptocurrency.

While the peculiarity of blockchain hard forks and the volatility of cryptocurrency markets may pose special considerations, these issues do not warrant a significant deviation from longstanding tax doctrine without a legislative initiative. Taxpayers must be able to anticipate the calculation of their tax bill under the law, and without a substantial change in the formal doctrine, this result seems to be the most appropriate.

However, it is also clear that the IRS does not strictly follow the rules pertaining to found property.¹⁶⁷ As long as found property remains the closest analogy by which one may assess cryptocurrency produced via a hard fork, this observation of practicalities may be the best “street guide” for taxpayers. It is difficult to imagine any taxpayer reporting the value of their found property to the IRS, much less this collectively produced, pseudo-found cryptocurrency that they possibly never wanted in the first place. The rule seems out of place.

And perhaps this unusual “accession of wealth,” to the extent that it can even be called as much with confidence, is not best thought of as found property. Surely this hard fork phenomenon is testing the limits of our conceptual categories, forcing the question of what may or may not be considered income. The scenario harkens back to the question of the fan who catches the baseball star's homerun ball: Even if the fan does not sell the ball, must the fan report the value of that ball as income?¹⁶⁸ Like the baseball, the Bitcoin Cash hardly feels like found property. The latter was deliberately produced by a consensus model—abound with conflicting desires—and then placed into the possession of every

¹⁶⁷ See *supra* notes 153–159 and accompanying text.

¹⁶⁸ Zelenak & McMahon, *supra* note 153, at 1299–1301.

recipient. No one would say they “found” their Bitcoin Cash, and yet it feels like the closest analogy available.

The IRS should consider this issue and provide, in substantial terms, how exactly hard forks should be treated for tax purposes. The issue will surely become more prevalent as cryptocurrencies become increasingly popular. Recently, the blockchain for Litecoin, another popular cryptocurrency with a substantial market cap,¹⁶⁹ forked to produce the new Litecoin Cash blockchain.¹⁷⁰ Many more forks will be coming.¹⁷¹ Current doctrine provides a fairly clear but ultimately inadequate answer for how to deal with these events. The IRS could come to innovative conclusions by considering if and how hard forks, in their technical and social peculiarity, actually produce income. At the very least, the IRS should issue guidance on the treatment of hard forks.

¹⁶⁹ *Litecoin*, COINMARKETCAP, <https://coinmarketcap.com/currencies/litecoin/> (last visited Feb. 23, 2018).

¹⁷⁰ With a low price for Litecoin Cash, the results have been disappointing. See Omkar Godbole, *Litecoin Cash Has Forked but It's Hardly Trading*, COINDESK (Feb. 22, 2018), <https://www.coindesk.com/litecoin-cash-forked-hardly-trading/>.

¹⁷¹ See Jasper Hamill, *These Cryptocurrency 'Forks' Could Beat Price Rise of Bitcoin, Ethereum, Litecoin and Ripple*, METRO (Feb. 23, 2018, 3:43 PM), <http://metro.co.uk/2018/02/23/cryptocurrency-forks-beat-price-rise-bitcoin-ethereum-litecoin-ripple-7337462/>.