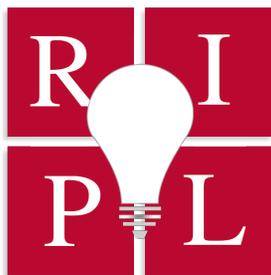# UIC
REVIEW OF INTELLECTUAL PROPERTY LAW

THE FORKING PHENOMENON AND THE FUTURE OF CRYPTOCURRENCY IN THE LAW

CHELSEA D. BUTTON

ABSTRACT

In the evolving and ever-changing world of cryptocurrency, new and exciting phenomena arise, including hard forks. Hard forks occur when two groups supporting a cryptocurrency disagree on how the code should evolve. If the changes are incompatible, the code diverges into two chains, essentially doubling the amount of each holder's coin. Forking a coin is theoretically easy. However, maintaining a fork requires great effort and support by members of the community. This Article discusses the November 15, 2018 Bitcoin Cash hard fork and subsequent lawsuit, analyzing anti-trust, negligence, and conversion claims. Forcing *de facto* fiduciary duties on developers and miners fails to consider that cryptocurrency is a product, likening developers to copyright holders, and the basic premises of fiduciary law. Next, this Article examines the effect of lawsuits on crypto-communities, including legal and economic ramifications of hard forks. While developers may hold some power in cryptocurrency management, external regulations would be impractical and lead to serious ramifications. This Article proposes that developers and miners should protect themselves through contract law and public blockchain networks should be treated as pseudo-sovereigns with internal regulations, for situations such as hard forks.

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Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;
. . .
I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.[1]

I. INTRODUCTION

In the world of cryptocurrency, hard forks occur when two proposed versions of a cryptocurrency's[2] code are incompatible. Hard forks lead to the doubling of a holder's coin, where each coin emerges with a differing value. Hard forks divide communities by forcing key players to choose which version of the code to support. This creates animosity between the two resulting networks. Possible legal ramification of antitrust or negligence arise because of hard forks.

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[1] Robert Frost, The Road Not Taken (1916).

[2] Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings*, U.S. SEC. AND EXCH. COMM. (Dec. 11, 2017), www.sec.gov/news/public-statement/statement-clayton-2017-12-11.

> *Cryptocurrencies*. Speaking broadly, cryptocurrencies purport to be items of inherent value (similar, for instance, to cash or gold) that are designed to enable purchases, sales and other financial transactions. They are intended to provide many of the same functions as long-established currencies such as the U.S. dollar, euro or Japanese yen but do not have the backing of a government or other body. Although the design and maintenance of cryptocurrencies differ, proponents of cryptocurrencies highlight various potential benefits and features of them, including (1) the ability to make transfers without an intermediary and without geographic limitation, (2) finality of settlement, (3) lower transaction costs compared to other forms of payment and (4) the ability to publicly verify transactions. Other often-touted features of cryptocurrencies include personal anonymity and the absence of government regulation or oversight. Critics of cryptocurrencies note that these features may facilitate illicit trading and financial transactions, and that some of the purported beneficial features may not prove to be available in practice..

Those not immersed in the crypto-world remain uncertain and hesitant to enter. On the one hand, cryptocurrency takes us back to the days of paper money without FDIC insurance. Once you lose it or use it, it's gone. However, unlike paper money, the intangibility is more akin to using a credit card. Cryptocurrency opens up a wide range of possibilities including blockchain technology,[3] smart contracts,[4] acceptance of decentralization,[5] increased anonymity, and greater efficiency.[6]

Each cryptocurrency has its own strengths and weaknesses. Bitcoin, the first and most well-known, has been commonly mistaken as a synonym for cryptocurrency.[7] It's one of those "all squares are rectangles, but not all rectangles are squares" situations.[8] Another well-known cryptocurrency, Ethereum, created a platform that can execute contracts automatically and encourage application creation.[9] Reminiscent of the rule against perpetuities, smart contracts can be as simple as "A gives $1 to B" or as torturous as your law school property examination during your 1L year. Some cryptocurrencies spawned out of jest and others out of utility.[10] With more than 112 cryptocurrencies listed in Changelly, it is no wonder attorneys are making a stronger presence in this space.[11]

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[3] Blockchain is a ledger distributed among many computers. It requires peer-to-peer networking, asymmetric cryptography, and cryptographic hashing. CHRIS DANNEN, INTRODUCING ETHEREUM AND SOLIDITY: FOUNDATIONS OF CRYPTOCURRENCY AND BLOCKCHAIN PROGRAMMING FOR BEGINNERS 4 (2017).

[4] *Id.* at 10. Smart contracts are "business logic that runs on the network, semi-autonomously moving value and enforcing payment agreements between parties." *Id.* Smart contracts were developed on the Ethereum network and self-execute once certain conditions are met. *Smart Contracts: The Blockchain Technology That Will Replace Lawyers*, BLOCKGEEKS, http://www.blockgeeks.com/guides/smart-contracts (last visited Mar. 21, 2019).

[5] Centralization refers to a single entity "that allows for the transfer of value between persons or locations." Lisa M. Ledbetter, Colin C. Richard, & Kayla M. Davis, *Cryptocurrencies and the Regulation of Money Transmission*, *in* BLOCKCHAIN FOR BUS. LAW. 163, 169 (Mark W. Rasmussen & James A. Cox eds., 2018). Decentralization takes the power out of a single entity's grasp and places it evenly amongst multiple entities. *Id.*

[6] While cryptocurrency, such as Bitcoin is viewed as anonymous, it is really only pseudo-anonymous. All transactions are publicly recorded on the blockchain. While some users may seek to increase anonymity by using platforms such as CashShuffle, Bitcoin can never be truly anonymous because the white paper doesn't provide for that capability.

[7] In 2008, Satoshi Nakamoto released a white paper–a document that details code that would produce a virtual currency. James A. Cox, *Introduction to Bitcoin Technology*, *in* BLOCKCHAIN FOR BUS. LAW. 1, 1-2 (Mark W. Rasmussen & James A. Cox eds., 2018). Bitcoin was developed to run on peer-to-peer system, where the coin could not be double spent, the code would be based on hash-based proof-of-work code, maintained by a network of nodes, and be resistant to hacking. *Id.* at 2. In order to make a transaction, a holder would need two keys–a private key to authorize spending and a public key to record the transaction on the ledger. *Id.* at 3. BITCOIN, http://www.bitcoin.org (last visited Mar. 24, 2019).

[8] *Rectangle*, VOCABULARY, http://www.vocabulary.com/dictionary/rectangle (last visited Mar. 20, 2019).

[9] Ethereum is similar to Bitcoin in that it has a peer-to-peer decentralized network ran on nodes, mined by miners, cryptography to prevent double spending, and a blockchain network. DANNEN, *supra* note 3, at 2. However, Ethereum reaches beyond Bitcoin by creating a platform for which multiple applications can be tested and executed, including smart contracts. *Id.*

[10] H.R. 115-596 (Mar. 13, 2018) (In 2013, Jackson Palmer created a "joke" cryptocurrency called DogeCoin as a parody of many alternative currencies started at that time and to raise awareness about cryptocurrencies generally). Ripple is considered a utility coin and does not generate new coins. Infourminutes.co, *Whitepaper In Four Minutes – Ripple*, HACKERNOON (May 2, 2018), https://www.hackernoon.com/whitepaper-in-four-minutes-ripple-a27103e4d265. All coins

This Article focuses on how forks originated and how different cryptocurrencies survived hard forks. Next, this Article examines the impact that hard forks made on the cryptocurrency market. Then, this Article analyzes legal implications of hard forks and the ramifications on those in the cryptocurrency community. Finally, this Article proposes how to best prepare and advise clients who may be affected by hard forks.

II. Background

The background will first discuss the basics of cryptocurrency–what it is, how it is used, and what is necessary to survive a hard fork. Next, this section will look at two different cryptocurrencies: Bitcoin and Ethereum. Both cryptocurrencies have different strengths and weakness. These cryptocurrencies have survived several hard forks, where both multiple chains have survived and remain quite popular today. Bitcoin's strongest hard fork chain, Bitcoin Cash, also recently underwent its own hard fork and the community is dealing with the first post-hard fork litigation. This section will discuss the effect of hard forks on these currencies and on their respective communities.

A. The Basics: What Is Cryptocurrency?

In the push for decentralized currency, cryptocurrency is fast becoming prevalent and pervasive on the market.[12] Cryptocurrency is a digital form of currency based on code.[13] The code can be either open source or closed source.[14] Open source code reveals to the public the inner workings of the cryptocurrency,[15] whereas closed source keeps its code secret from the public.[16] Cryptocurrencies use a

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were released, with the creators keeping 20% and the Ripple Labs receiving 80%. *Id.* Most holders use Ripple to speed up and reduce the cost of transferring money. *Id.*

[11] *Supported Currencies*, CHANGELLY, https://www.changelly.com/supported-currencies (last visited Mar. 20, 2019).

[12] Jeff Desjardins, *The Cryptocurrency Universe Keeps Expanding,* BUS. INSIDER (Jun. 28, 2017, 6:43 PM), http://www.businessinsider.com/bitcoin-price-cryptocurrency-universe-keeps-expanding-2017-6.

[13] White paper–a document that details code that would produce a virtual currency. COX, *supra* note 7, at 2. Open source code is publicly available. Bitcoin's white paper is public. Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN (2008), http://www.bitcoin.org/bitcoin.pdf. Ethereum's white paper is also public. *Ethereum White Paper*, GITHUB (2014), http://www.github.com/ethereum/wiki/wiki/White-Paper.

[14] Open source is publicly available and can be modified.   *What is open source?*, OPENSOURCE.COM, http://www.opensource.com/resources/what-open-source (last visited Mar. 24, 2019). Open source code is intended to enhance open collaboration and allow programmers to add features or fix bugs in the code. *Id.* Closed source code, alternatively, remains private and proprietary and only a select number of individuals may access, modify, or fix the code. *Id.*

[15] Bitcoin and Ethereum both have open source code and the white paper is publicly available. *See supra* note 13 and accompanying text.

[16] Examples of closed source programs include standard anti-viruses like Norton and McAfee, tax programs like TurboTax and QuickBooks, and other proprietary software.

digital ledger called blockchain to verify transactions and retain a history of all transactions.[17]

Many cryptocurrencies exist on a decentralized network.[18] In a centralized system, all transactions go through a single entity, like a bank.[19] In a decentralized system, also known as a peer-to-peer system, each entity involved has access to all transactions and maintains its own ledger.[20] Developers create code and propose applications for the network.[21] Developers first propose an idea, receive feedback from the community through discussion forums, and openly develop the idea into working code.[22] If accepted by the community, the code is implemented into the network during the next upgrade.[23]

As with any group, differing opinions exist. When those opinions translate into changes in the code, two types of forks can occur: hard forks and soft forks. Hard forks exist when the two proposed versions of a code's protocol are incompatible and result in two different blockchains.[24] Soft forks have differing, yet compatible code.[25] Forks occur for a variety of reasons and multiple hard forks can occur at the same time.[26]

Hard forks in a cryptocurrency's code force creation of a new coin so long as essential requirements are met. First, a hard fork requires enough miners to mine

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[17] *See* Arruñada, *infra* note 41, at 58-61 (providing a concise and informative overview of Blockchain). Carla L. Reyes, *(Un)Corporate Crypto-Governance*, FORDHAM LAW REV. 1, 7 (forthcoming 2019) (cited with author permission).

[18] *Centralization vs. Decentralization*, BLOCKCHAIN.WTF, http://blockchain.wtf/what-the-faq/centralization-vs-decentralization (last visited Jan. 28, 2019).

[19] COX, *supra* note 7, at 5.

[20] *Id.* at 6.

[21] Two types of developers include core developers and open source developers. Core developers create the original protocols and code, whereas open source developers propose and create updates. Reyes, *supra* note 17, at 11. When discussing "developers," this Article focuses on open source developers unless otherwise stated. Bitcoin Cash developers apply via online forums to join a development team, must be vouched for by a current member of the team, and then work with that team to implement updates in the code. *Bitcoin Cash Platform & Protocol Development*, CASH COIN DANCE, http:/cash.coin.dance/development (last visited Mar. 31, 2019).

[22] *Bitcoin   Cash   Platform   &   Protocol   Development*,   CASH   COIN   DANCE, http://cash.coin.dance/development (last visited Mar. 31, 2019).

[23] *Id.*; *See also*, Reyes, *supra* note 17, at 11. Full node operators adopt or reject developer's updates. For example, Bitcoin Cash developers schedule a hard fork every six months to improve "functionality and operations" in the blockchain protocol. *Bitcoin Cash Hardforks On May 15th. What   Does   It   Mean   For   BCH Owners?*, COINSWITCH   (Apr.   27,   2018), http://blog.coinswitch.co/everything-you-need-to-know-about-the-upcoming-bitcoin-cash-hard-fork-happening-on-15th-may-a7e62a6fa19e.

[24] Desjardins, *supra* note 12.

[25] *Id.*

[26] Rebecca Leighton, *Bitcoin Cash is but one of the three major Bitcoin forks you should know about*, COIN INSIDER (Nov. 8, 2018), http://www.coininsider.com/three-major-bitcoin-forks-2.

> [T]here are several reasons why a fork might happen, such as a proposed change to protocol because a pioneer might perceive a flaw in the algorithm or system of a particular blockchain and might think they have a potential solution. A big issue for which Bitcoin has been criticized is the troubles of scalability, particularly pertinent to the number of transactions that can be processed at any given time.

Id. See also, *Ethereum Hard Fork Jan'19 Delayed*, COINSWITCH, (Jan. 16, 2019), http://coinswitch.co/news/ethereum-hard-fork-jan-19-know-everything-about-3-upcoming-eth-hard-forks.

the coin.[27]   Mining involves processing, validating, and managing transactions, combining transactions into a "block" and recording it on the network's blockchain ledger.[28] The miner is measured by hashrate, the speed of completing transactions.[29] Unlike developers, miners are monetarily incentivized, receiving transaction fees as a reward for validating a block's transactions.[30] Miners use nodes, computers that passively run the blockchain network.[31] Some nodes are operated merely to keep the network alive and not for mining purposes.[32] Each node separately records the transaction on a decentralized ledger.[33] The larger the blockchain network, the more difficult it is to hack a blockchain ledger.[34] "Each cryptocurrency has its own independent blockchain network with its own ledger and nodes."[35] Therefore, if any one node is hacked and the blockchain is changed, the other nodes will recognize the hack and force the changed node to reflect the original transaction.[36] The more nodes on a network, the harder it is for a hacker to make changes and compromise the integrity of the blockchain.[37]

Also, the hard fork chain must be accepted by exchanges and payment systems.[38] Specialized exchanges allow investors to invest and trade cryptocurrency with fiat currency, such as the dollar, euro, or yuan.[39] The survival of a cryptocurrency also depends on securing a value with investors, generally through acceptance by merchants and payment systems.[40] Finally, holders of a

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[27] "The distributed volunteers are known as 'miners,' who build and manage the blockchain and receive new cryptocurrency and/or transaction fees as a reward for their efforts." Darren J. Sandler, *Citrus Groves in the Cloud: Is Cryptocurrency Cloud Mining a Security?*, 34 SANTA CLARA HIGH TECH. L.J. 250, 254 (2018).

[28] *Id*. at 254-55. Part of the validation process requires miners to make sure the coins being used in each transaction listed in the blockchain ledger haven't already been spent. *Id.*

[29] Hashrate is the speed a computer completes "proof-of-work cryptographic puzzles (guessing hashes that are each puzzles' solution) required to generate a block." Sandler, *supra* note 27, at 250.

[30] Reyes, *supra* note 17, at 11. Developers also have their own full archival nodes to test their updated and new code before it is implemented into the whole system. This Article will refer to "full archival nodes" as "nodes," however, not all nodes in the blockchain have the entire blockchain archived within it. Full archival nodes are maintained by miners (to receive compensation for mining), developers (for testing), and holders (who passively maintain the network).

[31] DANNEN, *supra* note 3, at 12.

[32] Sandler, *supra* note 27, at 256. Full archival nodes have the entire history and new nodes need to download the entire blockchain from full archival nodes. Full archival node operators also enact updates and proposals from developers. Reyes, *supra* note 17, at 11.

[33] *Id.*

[34] *Id.*

[35] Nareg Essaghoolian, *Initial Coin Offerings: Emerging Technology's Fundraising Innovation*, 66 UCLA L. REV. 294, 302 (2019).

[36] Joshua S. Morgan, *What I Learned Trading Cryptocurrencies While Studying the Law*, 25 U. MIAMI INT'L & COMP. L. REV. 159, 181-182 (2017).

[37] *Id.*

[38] Scott D. Hughes, *Cryptocurrency Regulations and Enforcement in the U.S.*, 45 W. ST. L. REV. 1, 6 (2017). Nick Chong, *Getting Listed on a Cryptocurrency Exchange: How Vital Is It?*, BITCOINIST (Apr. 7, 2018), http://www.bitcoinist.com/getting-listed-the-difference-between-success-and-failure-for-cryptocurrencies/.

[39] Dennis Chu, *Broker-Dealers for Virtual Currency: Regulating Cryptocurrency Wallets and Exchanges*, 118 COLUM. L. REV. 2323, 2324 (2018). Fiat currency is backed by governments, e.g., U.S. Dollar, European Euro, Chinese Yuan, etc.

[40] Hughes, *supra* note 38, at 6.

cryptocurrency own cryptocurrency as an investment or to spend.[41] While many may think the miners hold the quintessential key to whether a new coin stays in existence, all of these requirements are necessary to effectuate a hard fork.

After the hard fork occurs, holders could be provided with equal amounts of both coin.[42] These coins take different names, values, and operate independent of one another.[43] "This is an interesting event that can happen in a cryptocurrency that couldn't happen in a traditional currency, where the option of forking is not available to users."[44] Bitcoin and Ethereum are two well-known cryptocurrencies that have endured and survived hard forks.

B. The Bitcoin Phenomena

Bitcoin first came into existence in 2008 and soon became the most widely recognized and used cryptocurrency.[45] "Bitcoin provided an attractive entry point for new blockchain users, rewarding them with something of value (bitcoins) for participating in the blockchain process, thereby offsetting (and in some instances surpassing) costs associated with running the computers necessary to maintain the technology."[46] Bitcoin currently has a market capitalization of about $147 billion and is valued around $8,179.57 per coin as of the time of this writing.[47]

1. Bitcoin's Hard Forks

Bitcoin has survived several hard forks, with multiple hard fork chains surviving today. The first surviving hard fork was two years after Bitcoin emerged, where a programmer introduced a change in Bitcoin's code, allowing an increased limit and faster mining rates.[48] "Litecoin" currently has a market capitalization of

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[41] Reyes, *supra* note 17, at 12.

[42] Nick Webb, *A Fork in the Blockchain: Income Tax and the Bitcoin/Bitcoin Cash Hard Fork*, 19 N.C. J. L. & TECH. 283, 292 (2018). For example, Nov. 23, 2018 the price of Bitcoin SV was $78.27 eight days after the split. *Bitcoin SV*, COIN CHECKUP, http://coincheckup.com/coins/bitcoin-sv (last visited Mar. 28, 2019). Bitcoin Cash was $189.37. *Bitcoin Cash*, COIN CHECKUP, http://coincheckup.com/coins/bitcoin-cash (last visited Mar. 28, 2019).

[43] Benito Arruñada, *Blockchain's Struggle to Deliver Impersonal Exchange*, 19 MINN. J. L. SCI. & TECH. 55, 71 (2018)

[44] ARVIND NARAYANAN, JOSEPH BONNEAU, EDWARD FELTEN, ANDREW MILLER, & STEVEN GOLDFEDER, BITCOIN AND CRYPTOCURRENCY TECHNOLOGIES: A COMPREHENSIVE INTRODUCTION 172 (2016).

[45] Nakamoto, *supra* note 13 (The launch of Bitcoin was not until January 2009).

[46] Am. Bar Assoc. Derivatives and Futures Law Committee Innovative Digital Products and Processes Subcommittee Jurisdiction Working Group, *Digital and Digitized Assets: Federal and State Jurisdictional Issues*, AM. BAR ASSOC. (2019) http://www.americanbar.org/content/dam/aba/administrative/business_law/buslaw/committees/CL62 0000pub/digital_assets.pdf.

[47] *Bitcoin*, COINMARKETCAP, http://www.coinmarketcap.com/currencies/bitcoin (last visited Oct. 7, 2019).

[48] Leighton, *supra* note 26. The change in protocol code led to the hard fork. Although the majority of its code was identical to Bitcoin, Litecoin did not carryover the Bitcoin blockchain ledger.

about $3.6 billion and is valued around $56.91 per coin as of the time of this writing.[49]

Bitcoin's second hard fork occurred in 2017, where the introduction of proposed code known as "SegWit" caused miners, node operators, and others to support incompatible code.[50]   The resulting divergence divided Bitcoin into Bitcoin and Bitcoin Cash.[51]   While Bitcoin adopted SegWit, Bitcoin Cash declined SegWit and instead sought to increase block size and allow for more transactions.[52] Bitcoin Cash recently underwent a stress test, with over two million transactions without nodes crashing.[53] As the strongest fork, Bitcoin Cash currently has a market capitalization of about $4.2 billion and is valued around $232.76 per coin as of the time of this writing.[54]

2. Bitcoin Cash's Recent Hard Fork

Bitcoin Cash hard forked on November 15, 2018, when developers proposed an upgrade known as "Bitcoin Cash ABC" (Bitcoin Cash) and another group proposed incompatible code known as "Bitcoin Cash SV" (Bitcoin SV).[55] The Bitcoin Cash fork

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The first transaction on the Litecoin blockchain began after the fork, contrary to other Bitcoin hard forks.

[49] *Litecoin*, COINMARKETCAP, http://www.coinmarketcap.com/currencies/litecoin (last visited Oct. 7, 2019).

[50] Webb, *supra* note 42, at 291. Also known as "Segregated Witness," SegWit introduced a number of revisions to the code, including increasing the blocksize from 1 to 1.7 MB. *Id.* Other members of the community wanted to update the code without some of SegWit's revisions and increase the blocksize further, from 1 to 8 MB. *Id.* These codes were incompatible and thus resulted in a hard fork. *Id.* at 292.

[51] *Id.* Interestingly, Bitcoin's price increased after the hard fork with Bitcoin Cash, priced at $2,776.07 prior to the fork and increasing to $17,117.11 on December 17, 2017. *Bitcoin*, COIN CHECKUP, http://www.coincheckup.com/coins/bitcoin (last visited Mar. 28, 2019).   Bitcoin Cash began at $310.26 and increased as well. *Bitcoin Cash*, COIN CHECKUP, http://coincheckup.com/coins/bitcoin-cash (last visited Mar. 28, 2019).

[52] Leighton, *supra* note 26.

[53] Helen Partz, *Bitcoin Cash Stress Test Results: 2.1 Million Transactions Cause No Surge in Fees*, COINTELEGRAPH (Sep. 2, 2018), http://cointelegraph.com/news/bitcoin-cash-stress-test-results-21-million-transactions-cause-no-surge-in-fees (stating "[d]uring the stress test, the number of microtransactions on the BCH network surged up to 14,300 per block . . . the number of transactions even reached 25,783 per block, up from the usual average interval of 90 to 150 transactions per block").

[54] *Bitcoin Cash*, COINMARKETCAP, http://coinmarketcap.com/currencies/bitcoin-cash/ (last visited Oct. 7, 2019).

[55] Ana Alexandre, *Bitmain, Roger Ver, Kraken Sued for Alleged Bitcoin Cash Hard Fork Manipulation*, COINTELEGRAPH (Dec. 7, 2018), http://cointelegraph.com/news/bitmain-roger-ver-kraken-sued-for-alleged-bitcoin-cash-hard-fork-manipulation.   Two developer teams–ABC and Unlimited–worked on separate implementations of Bitcoin Cash, two ways of running the same software. Unlimited tested out experimental features, while ABC did not. Both implementations were compatible with the Bitcoin Cash code because they follow the same protocol rules. For a further discussion on protocol rules *see*, DANNEN, *supra* note 3, at 3. Having multiple teams of developers added to the improved development of decentralization, a difficulty for Bitcoin (BTC). When Bitcoin Cash SV was announced, the Bitcoin Cash community clarified the name as "Bitcoin Cash ABC" to distinguish its compatible protocol rules from Bitcoin Cash SV. Roughly 60% of the Bitcoin Cash nodes ran ABC and 40% ran Unlimited.

included additional features such as smart contracts and the elimination of bottle-necks in the code to increase transactions per second in the future.[56]

The Bitcoin SV chain purported to increasing the block size limit from 32MB to 128MB.[57] These two chains were incompatible, so the community composed of miners, nodes, exchanges, payment systems, and holders began picking sides.[58] The code itself encourages miners to choose the longest chain to preserve the network, called "fork choice."[59]

Exchanges such as Binance, Coinbase and Kraken supported Bitcoin Cash.[60] Miner Bitmain, and various mining pools also supported Bitcoin Cash.[61] Prior to the hard fork, 837 of the 968 nodes supported Bitcoin Cash, while only 131 nodes supported Bitcoin SV.[62] Other participants in the community include exchanges Poloniex, HitBTC, and Bittrex, all of whom support both coins.[63] Kraken announced the possibility of reevaluating its stance in the future.[64] Kraken also suggested any

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[56] Aaron Watts, *Whats The Deal With The November 15 BCH Hard Fork?*, COINCODEX (Dec. 2018), http://coincodex.com/article/2579/whats-the-deal-with-the-november-15-bch-hard-fork/.

Certain miners live in countries with limited bandwidth (China). Those miners need to expedite efficiency in order to claim the prize of mining the coin. Rather than dealing with the entire block, miners would only need to upload or download small amounts of data before creating an additional block. For example, 100 bites instead of 32MB (the amount necessary to complete the entire block). Canonical transactions known as "Graphine" are needed for this process.

[57] *Id.*

[58] *Id.*

[59] PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW: THE RULE OF CODE 24 (2018).

[60] *Updated: What to Expect During the Bitcoin Cash Hard Fork*, COINBASE (Nov. 13, 2019), http://blog.coinbase.com/what-to-expect-during-the-bitcoin-cash-hard-fork-f15fd03687db?gi=fe89ddf27fc1. Coinbase eventually allowed holders of Bitcoin Cash to receive equal portion of Bitcoin SV on February 15, 2019, but still does not support the trading of Bitcoin SV at the time of this writing. John P. Njui, *Coinbase Users Can Now Withdraw, But not Trade, their Bitcoin SV (BSV)*, ETHEREUM WORLD NEWS (Feb. 1, 2019), http://ethereumworldnews.com/coinbase-users-can-now-withdraw-but-not-trade-their-bitcoin-sv-bsv/. *On the November 15 2018 Bitcoin Cash hard fork*, KRAKEN (Nov. 10, 2018), http://blog.kraken.com/post/1917/on-the-november-15-2018-bitcoin-cash-hard-fork.

[61] Marie Huillet, *Mining Giant Bitmain Hurries to Deploy 90,000 S9 Antminers Ahead of Bitcoin Cash Hard Fork*, COINTELEGRAPH (Nov.8, 2018), cointelegraph.com/news/mining-giant-bitmain-hurries-to-deploy-90-000-s9-antminers-ahead-of-bitcoin-cash-hard-fork (mining pools include Bitcoin.com, BTC.com, AntPool, Btc.top, ViaBTC).

[62] *Id.*

[63] Colin Harper, *After the Fork: Here's How Exchanges Are Dealing With Bitcoin Cash*, BITCOIN MAGAZINE (Nov. 16, 2018 at 3:05 PM EST), bitcoinmagazine.com/articles/after-fork-heres-how-exchanges-are-dealing-bitcoin-cash/.

[64] *On the November 15 2018 Bitcoin Cash hard fork*, KRAKEN (Nov. 10, 2018), http://blog.kraken.com/post/1917/on-the-november-15-2018-bitcoin-cash-hard-fork.

> Kraken will prepare its Bitcoin Cash (BCH) wallets to be Bitcoin ABC specific so that coins from any alternative chains will be retained and not sent out from our wallets in withdrawals. We will not support any alternative chains for funding or trading on the day of the fork. We will then monitor the situation in the weeks and months after the fork and evaluate whether or not any changes to our stance are warranted, including the possibility of supporting an alternative chain. However, we make no promise or guarantee that any alternative chain will be supported. Clients who want perfect control should withdraw their BCH from Kraken prior to the fork.

Bitcoin Cash holders withdraw their currency from the exchange prior to the hard fork.[65] Various exchanges warned holders about measures to take in order to protect themselves.[66]

At times after the hard fork, Bitcoin SV performed better than Bitcoin Cash.[67] Overall, Bitcoin Cash attracted "far higher hash rate[s] and miner support."[68] Soon thereafter, it was clear that Bitcoin Cash garnered more traction in the community and prevailed.[69]

Days after the hard fork, Bitcoin SV proponents began making a variety of claims, announcing Bitcoin SV would eventually take all unused coins–calling them "sunken treasure."[70] Craig Wright went on a social media rampage, attacking numerous communities and proposed tanking the price of Bitcoin if he couldn't maintain control of Bitcoin Cash.[71] Wright similarly threatened Ripple and XRP communities.[72] Bitcoin SV supporter Calvin Ayres stated that Wright will sue anyone denying his claims.[73] Twitter suspended Wright's account after he made

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Id. Kraken, Binance, and Shapeshift exchanges all supported Bitcoin SV for a short amount of time, but then de-listed the Bitcoin SV in response to litigation and Craig Wright's behavior. Anna Baydakova, *Kraken Exchange Joins Binance Shapeshift in Delisting Bitcoin SV,* COINDESK (Apr. 16, 2019 AT 21:30 UTC), https://www.coindesk.com/kraken-exchange-joins-binance-shapeshift-in-delisting-bitcoin-sv.

[65] *Id.*

[66] *Id.*

[67] Sandler, *supra* note 27, at 250. A visual, interactive graph of the Bitcoin Cash/Bitcoin SV hashrate can be found at *Hashrate*, CASH.COIN.DANCE, http://cash.coin.dance/blocks/hashrate (last visited Mar. 24, 2019). A comparison between Bitcoin Cash/Bitcoin SV can be found at *BSV vs. BCH ABC*, COINSWITCH, http://coinswitch.co/news/bsv-vs-bch-abc (last visited Mar. 26, 2019).

[68] Rahul Nambiampurath, *Purse.io Riles up Bitcoin SV Supporters After Controversial Tweet*, BEINCRYPTO (Mar. 18, 2019) http://beincrypto.com/purse-io-riles-up-bitcoin-sv-supporters-after-controversial-tweet/. *Hashrate, supra* note 67.

[69] *Id.*

[70] Craig Wright, *Salvage, fixing OP_False, and more*, MEDIUM (Nov. 8, 2018),
http://medium.com/@craig_10243/fixing-op-fals-fd157899d2b7. The problem with this line of reasoning is that it strips another's coins merely due to lack of use. Such an action is contrary to the idea of decentralization and more akin to government usurpation. Bitcoin Cash community outrage and criticism ensued. Stale2000, *Craig Wright plan on stealing old wallet balances (and "burned" coins) on BSV, and calls them "sunken treasure". I think this is how he will "recover" Satoshi's coins*, REDDIT,
http://www.reddit.com/r/btc/comments/9vi00u/craig_wright_plan_on_stealing_old_wallet_balances/ (last visited Mar. 23, 2019).

[71] John Moore, *Bitcoin Cash Fork: Craig Wright Threatens to send Bitcoin price down to $1000 as BCH prepares to split*, CRYPTO NEWS REV. (Nov 14, 2018 at 7:22 PM), http://cryptonewsreview.com/bitcoin-cash-fork-craig-wright-threatens-to-send-bitcoin-price-down-to-1000-as-bch-prepares-to-split.

[72] William Suberg, *'You Are My Enemy': Bitcoin Cash Sides Clash as Hard Fork Looms*, CoinTelegraph (Nov. 9, 2018), http://cryptonewsreview.com/as-bitcoin-cash-fork-war-wanes-craig-wright-takes-aim-at-ripple-and-xrp.

[73] Confidant, Calvin Ayre tweeted that Craig Wright was considering litigation against anyone who states he is not Satoshi Nakamoto. Luc Lammers, *Craig Wright "Filing Lawsuits" Against People Denying He is Satoshi Nakamoto*, ALTCOIN BUZZ (Mar. 30, 2019), http://www.altcoinbuzz.io/crypto-news/spotlight/craig-wright-filing-lawsuits-against-people-denying-he-is-satoshi-nakamoto.

these threats.[74]   Interestingly, a number of cryptocurrency community members believed Bitcoin SV to be a scam.[75] Many believed Wright and Bitcoin SV supporters were attempting to hijack Bitcoin Cash.[76]

Support still exists for both coins.[77]   Bitcoin SV currently has a market capitalization of $1.5 billion and is valued around $84.33 per coin as of the time of this writing.[78] Both Bitcoin Cash and Bitcoin SV are still in existence and neither has wasted away as so many hard fork chains have in the past.[79]   Rather, the community that makes up the network divided between the two chains, a perfectly normal occurrence.[80]

Despite this, Benoit Laliberté,[81] president of United American Corp. (United),[82] sued developers, exchanges, and miners over the November 2018 Bitcoin Cash hard

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[74] Akash Girimath, *Craig Wright's Twitter account suspended after threatening harassment and libel lawsuits*, AMB CRYPTO (Mar 19, 2019), http://ambcrypto.com/craig-wrights-twitter-account-gets-suspended-following-threatening-tweets.

[75] *See* Nick James, *Jimmy Song: Three Reasons Why Bitcoin SV (BSV) Is A Complete Scam* (Feb. 15, 2019), http://zycrypto.com/jimmy-song-three-reasons-why-bitcoin-sv-bsv-is-a-complete-scam/ (stating Craig Wright is a con artist, there has been no open source software or any development attracted, and both Craig Wright and Calvin Ayre act suspiciously). *See also*, ChaosElephant, *BSv (it really isn't Satoshi's Vision): TWO scammers actively destroying everything the white paper stands for while spewing bullshit claiming the opposite in order to acquire wealth. That's all it is.*, REDDIT (Jan. 2019), http://www.reddit.com/r/btc/comments/a4kwnl/bsv_it_really_isnt_satoshis_vision_two_scammers/ (detailing a number of comments by various members in the Bitcoin Cash community expressing their suspicion surrounding Bitcoin SV). Alyssa Hertig, *Hating On Craig 'Satoshi' Wright Has United Crypto,* COINDESK (Apr. 7, 2018), http://www.coindesk.com/hating-craig-wright-become-cryptos-feel-good-uniting-force (citing a number of prominent crypto figures calling out Craig Wright as a fraud).

[76] *Id.*

[77] *Kraken Credits Clients with Bitcoin SV (BSV) and Launches BSV Trading*, KRAKEN (Nov. 18, 2018), http://blog.kraken.com/post/1928/kraken-credits-clients-with-bitcoin-sv-bsv-and-launches-bsv-trading/. Bitcoin SV is listed on 145 exchanges and Bitcoin Cash is listed on 300 exchanges. *Bitcoin SV*, COINGECKO, http://www.coingecko.com/en/coins/bitcoin-sv/trading_exchanges (last visited Mar. 20, 2019); *Bitcoin Cash*, COINGECKO, http://www.coingecko.com/en/coins/bitcoin-cash/trading_exchanges (last visited Mar. 20, 2019).

[78] *Bitcoin SV*, COINMARKETCAP, http://coinmarketcap.com/currencies/bitcoin-sv/ (last visited Oct. 7, 2019).

[79] *Bitcoin Cash*, *supra* note 54; *Bitcoin SV*, *supra* note 78.

[80] *Id.*

[81] Jean-Sebastien Gagnon, *Controversial entrepreneur Benoit Laliberté launches into bitcoins*, LA PRESSE (Jan. 16, 2018, 7:57 AM), http://www.lapresse.ca/affaires/economie/services-financiers/201801/16/01-5150148-lentrepreneur-controverse-benoit-laliberte-se-lance-dans-les-bitcoins.php. Benoit Laliberté was convicted of tax evasion and insider trading in the 2000s. *Id.* He paid nearly $1 million in fines for violating the Quebec Securities Act and far more to stop a class action suit from Jitec's shareholders. *Id.* Laliberté became president of United American Corp., (United) "owned 80% by Benoit Laliberté's family trust." *Id.* He also owns Blockchain Data Centers, a wholly owned subsidiary of United, with the goal of becoming "one of the largest cryptocurrency mining networks in North America." *Id.*

[82] United is a private corporation, that recently reinstated in June 2018 (a mere month after the last regular Bitcoin Cash update), with the registered agent Corporate Creative Network, Inc. and Benoit Laliberté as its officer. Division of Corporations, *Business Entity Search*, STATE OF FLA. http://www.search.sunbiz.org/Inquiry/CorporationSearch/SearchResultDetail?inquirytype=EntityName&directionType=Initial&searchNameOrder=UNITEDAMERICAN%20V5131110&aggregateId=domp-v51311-86578fba-00e1-48ea-9c65-

fork.[83] Filed in the Florida Southern District Court, United alleges the supporters of Bitcoin Cash colluded to hijack "the Bitcoin Cash network, centralizing the market, and violating all accepted standards, protocols and the course of conduct associated with Bitcoin since its inception."[84] After the suit was filed, Bitcoin Cash registered losses and was down by over 20%.[85] Alternatively, Bitcoin SV gained over 27% in growth during the same time.[86]

Bitcoin paved the way for cryptocurrencies and their progenies. The normal occurrence of hard forks uniquely exists in cryptocurrency–when community members disagree with how the code should be updated. After a hard fork occurs, holders are left with one of each coin. After Bitcoin Cash's hard fork, holders walked away with one Bitcoin SV for every original Bitcoin Cash, doubling the amount of coins owned prior to November 15, 2018. Still, animosity between the two camps led to lawsuits, discussed in the analysis section of this Article.

C. Ethereum

Another cryptocurrency, famous in its own right, is Ethereum. Ethereum hosts decentralized applications, allowing for a variety of online services, enhancing existing services, and advancing smart contracts.[87] Smart contracts are "agreements written in computer code that execute automatically when conditions are met."[88] Ethereum supports a currency, Ether, which currently has a market capitalization of about $19.2 billion and is valued around $177.89 per coin as of the time of this writing.[89] Ethereum expanded the idea of simple smart contracts into complex applications and may revolutionize the legal world and "provide a new way to create and automatically update contracts, track land deeds, and create indisputable records of intellectual property rights that are universally accessible."[90]

28d93802ab33&searchTerm=United%20American&listNameOrder=UNITEDAMERICAN%2063586 40 (last visited Apr. 6, 2019).

[83] Complaint, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fla. Dec. 6, 2018), ECF No. 1.

[84] *Id.* at ¶ 1.

[85] On November 9, 2018, the price of Bitcoin Cash was $518.65, then plummeted after the fork to a low of $100.81 on December 14, 2018, days after *United* was filed. Bitcoin Cash has not increased above $186.56 since the hard fork. *Bitcoin Cash*, *supra* note 54; Alexandre, *supra* note 55 (citing CoinMarketCap's readings on Dec. 7, 2018).

[86] Alexandre, *supra* note 55. Bitcoin SV has been steadily decreasing in price–from $109.42 on December 24, 2018 to $63.48 on March 26, 2018. *Bitcoin SV*, *supra* note 78 (last visited Mar. 26, 2019).

[87] Ethereum uses blockchain technology to accomplish this feat. PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW: THE RULE OF CODE 3 (2018).

[88] Joon Ian Wong & Ian Kar, *Everything You Need to Know About the Ethereum "Hard Fork,"* QUARTZ (July 18, 2016), http://qz.com/730004/everything-you-need-to-know-about-the-ethereum-hard-fork/.

[89] *Ethereum*, COINMARKETCAP, http://coinmarketcap.com/currencies/ethereum (last visited Oct. 7, 2019).

[90] Noel Edlin, *Why Lawyers Shouldn't Put a Fork in Bitcoin*, LAW TECH. TODAY (Sept. 1, 2017), http://www.lawtechnologytoday.org/2017/09/lawyers-and-bitcoin/.

In April 2016, Ethereum conducted a "radical experiment called the Distributed Autonomous Organization, or the DAO."[91] The DAO created a venture capital firm where decisions would be executed through smart contracts and not by people.[92] It raised $168 million before it was hacked two months later.[93] Once discovered, the core developers instituted a temporary stopgap to remove the remaining funds.[94] The developers turned to a hard fork, implementing a different version of the code.[95]

> The Hard Fork is a delicate topic and the way we see it, no decision is the right one. As this is not a decision that can be made by the foundation or any other single entity, we again turn towards the community to assess its wishes in order to provide the most appropriate protocol change.[96]

The developers revised the code to achieve a hard fork, reversing many objectional transactions and recovering only some of the original funds.[97]   A supermajority of holders supported the hard fork.[98] The result was a hard fork, which erased part of the blockchain and led to the dissolution of the DAO.[99] The fork also produced a second coin, "Ethereum Classic," further dividing the community.[100] Many believed that Ethereum needed to remain immutable, while others wanted retribution.[101]

Recently, Ethereum experienced multiple hard forks scheduled for the same time.[102] Ethereum's code slowed block production to the point where no more blocks could be mined.[103] To overcome this hinderance, the developers used hard forks to continue the currency, improve blockchain performance, and increase mining rewards.[104]

Ethereum took the Bitcoin idea and improved it by providing a platform for developers to create and test innovative applications.   The two main upgrades

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[91] Carla L. Reyes, Nizan Geslevich Packin & Benjamin P. Edwards, *Distributed Governance*, 59 WM. & MARY L. REV. ONLINE 1 (2017). The DAO was set up to be a decentralized autonomous organization for crowd funding and was the first implementation of creating and managing a corporation.

[92] *Id.*

[93] *Id.*

[94] *Id.*

[95] *Id.*

[96] Wong & Kar, *supra* note 88 (quoting Ethereum cofounder Jeffrey Wilcox in a blog post found at https://qz.com/730004/everything-you-need-to-know-about-the-ethereum-hard-fork/).

[97] Angela Walch, *In Code(rs) We Trust: Software Developers as Fiduciaries in Public Blockchains*, *in* REGULATING BLOCKCHAIN. TECHNO-SOCIAL AND LEGAL CHALLENGED 1, 2 (forthcoming 2019), http://ssrn.com/abstract=3203198 (cited with author's permission).

[98] Usha R. Rodrigues, *Law and the Blockchain*, 104 IOWA L. REV. 680, 706 (Jan. 2019).

[99] *Id.*

[100] *Id*. *Ethereum Classic*, CoinMarketCap, http://coinmarketcap.com/currencies/ethereum-classic/ (last visited Oct. 7, 2019). Ethereum Classic has a market cap of $531 million and the price per coin is $4.66 at the time of this writing. *Id.*

[101] Rodrigues, *supra* note 98, at 682.

[102] *Ethereum Hard Fork Jan'19 Delayed*, COINSWITCH*,* (Jan. 16, 2019), http://coinswitch.co/news/ethereum-hard-fork-jan-19-know-everything-about-3-upcoming-eth-hard-forks.

[103] *Id.*

[104] *Id.*

include smart contracts and the DAO. While smart contracts have become readily used through the crypto-world since their introduction, the DAO began as a monumental idea that ended after being hacked. Ethereum used hard forks to prevent the loss of all investments in the DAO, reverse smart contracts executed in the most recent block in the blockchain, and improve performance and mining rewards.

D. Taxation

Tax implications arise during hard forks, because hard forks double the amount of coins a holder originally held. During the Bitcoin/Bitcoin Cash hard fork, all users could have obtained one Bitcoin Cash for every Bitcoin held. The same holds true with the Bitcoin Cash/Bitcoin SV hard fork. Without lifting a finger, an early holder of Bitcoin might have at least five[105] times the amount of his original coin, each with a different value, if the Bitcoin remained on an exchange that automatically split the coin. If the holder took affirmative action to place the Bitcoin in a non-splitting wallet or offline, or waited past the grace period to split the coin, no new coin may be realized.

Hard forks may affect a holder's income tax.[106] On October 9, 2019, the IRS issued guidance on hard forks, holding that "[a] taxpayer does not have gross income under § 61 as a result of a hard fork of a cryptocurrency the taxpayer owns if the taxpayer does not receive units of a new cryptocurrency."[107] However, "[a] taxpayer has gross income, ordinary in character, under § 61 as a result of an airdrop[108] of a new cryptocurrency following a hard fork if the taxpayer receives units of new cryptocurrency."[109]

For example, this Author purchased a nominal amount of Bitcoin Cash prior to the November 15, 2018 hard fork. This Author placed some in a non-splitting wallet and left some on Coinbase. After the hard fork, this Author had an equal amount of Bitcoin SV as Bitcoin Cash on Coinbase and no Bitcoin SV in her non-splitting wallet. Some additional steps were involved in order to realize the Bitcoin SV from my wallet. This Author did not take the additional steps to realize the Bitcoin SV from the non-splitting wallet. After the grace period for the hard fork ended, this Author cannot realize the Bitcoin SV from the coin left in the wallet. Without affirmative action, the only income necessary to report to the IRS derived from the Coinbase Bitcoin SV realized coin.

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[105] This hypothetical assumes that the holder did nothing apart from maintain the original Bitcoin on an exchange and received split coin during each of the following forks: Bitcoin/LiteCoin, Bitcoin/Bitcoin Cash, Bitcoin/Bitcoin Gold, Bitcoin Cash/Bitcoin SV.

[106] Nick Webb, *A Fork in the Blockchain: Income Tax and the Bitcoin/Bitcoin Cash Hard Fork*, 19 N.C. J.L. & TECH. 283, 292 (2018).

[107] Revenue Ruling 2019-24, I.R.S. Rev. R. 2019-24, 26 C.F.R. 1.61-1 (Oct. 9, 2019), https://www.irs.gov/pub/irs-drop/rr-19-24.pdf.

[108] The IRS classifies an "airdrop" as "a means of distributing units of a [newly forked] cryptocurrency to the distributed ledger addresses of multiple taxpayers." *Id.*

[109] *Id.*

1. Defining a Cryptocurrency

a. Security

When considering whether a cryptocurrency is a security, investors must consider a range of issues. Securities were first considered as investment contracts back in 1934, when Congress passed the Securities Exchange Act but remained undefined.[110] The Supreme Court defined a security in *Howie*.[111] The *Howie* test "involves [1] an investment of money [2] in a common enterprise [3] with profits [4] to come solely from the efforts of others."[112] Securities fall under the jurisdiction of the Securities Exchange Commission (SEC).[113]

Because cryptocurrency doesn't "fit neatly within the existing regulatory structure," two congressmen have proposed a bill to exclude cryptocurrency from SEC regulations.[114] The Token Taxonomy Act was introduced in December 2018 by Warren Davidson and Darren Soto prior to Congress adjourning.[115] If reintroduced and passed, this Act "would amend the Internal Revenue Code by adding and changing several code sections that could affect 'virtual currency' traders, holders and sellers" and have a retroactivity date of January 1, 2017.[116]

The SEC considered Ethereum's DAO as well as Initial Coin Offerings ("ICOs") to be securities and under its jurisdiction.[117] Under the *Howie* test, the DAO involved an investment of money ("exchanging Ethereum (ETH) for DAO"), in a common enterprise ("the DAO itself"), with profits ("reasonable expectation of profit from . . . fees and . . . dividends"), to come solely from the efforts of others ("curators" would "manage The DAO and put forth project proposals that could generate profits for The DAO's investors.").[118] The SEC also claimed jurisdiction over ICOs.[119] ICOs are similar to stock offerings, where holders of a cryptocurrency exchange the coin for start-up capital.[120] In early development, Ethereum raised $18 million in capital using an ICO.[121]

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[110] Securities Exchange Act, 15 U.S.C.S. § 78a *et. sec.*, PL 115-442 (1934).

[111] SEC v. W. J. Howey Co., 328 U.S. 293 (1946).

[112] *Id.* at 301.

[113] Securities Exchange Act, 15 U.S.C.S. § 78b, PL 115-442 (1934).

[114] Jeremy Wall, *US Lawmakers May Change SEC's Securities Definition to Exempt Cryptocurrencies*, INVEST IN BLOCKCHAIN (Dec. 22, 2018), http://www.investinblockchain.com/lawmakers-change-secs-securities-definition-exempt-cryptocurrencies/.

[115] Token Taxonomy Act, 115 H.R. 7356, 2018 H.R. 7356, 115 H.R. 7356 (2018).

[116] Jordan M. Shelton, *A Taxonomy of the Proposed Token Taxonomy Act*, LAW360 (Mar. 6, 2019).

[117] Orlando Buck, *Judge rules 'virtual currencies' are commodities*, MODERN CONSENSUS (Oct. 8, 2018) http://modernconsensus.com/commentary/opinion/regulation-virtual-currencies-commodities/.

[118] *Id.*

[119] *See*, *Spotlight on Initial Coin Offerings (ICOs)*, SEC, http://www.sec.gov/ICO (last visited Mar. 21, 2019) (stating the SEC has jurisdiction over ICOs).

[120] Clayton, *supra* note 2.

    Initial Coin Offerings. Coinciding with the substantial growth in cryptocurrencies, companies and individuals increasingly have been using initial coin offerings to raise capital for their businesses and projects. Typically these offerings involve

The SEC determined neither Bitcoin nor Ethereum are securities and therefore, not under the jurisdiction of the SEC.[122]   "[When] purchasers no longer have expectation of managerial stewardship from a third party, a coin is not a security."[123] Therefore, cryptocurrency could be analyzed as a "currency" or "commodity."

b. Currency

Numerous holders argue that cryptocurrency is a type of currency and should be regulated as a currency. Many governments believe that currencies must be backed by a government or bank in order to be defined as a currency.[124]   Currently, Switzerland is the only country to tax cryptocurrency as a foreign currency.[125] However, this argument has not gained much traction in the United States and regulators are far more inclined to regulate cryptocurrency as a security or commodity.

c. Commodity

Others argue cryptocurrency should be regulated as a commodity. Commodities are economic goods that can be bought or sold, such as grain.[126]   Commodities are regulated by the Commodity Futures Trading Commission (CFTC).[127]   In 2014, the CFTC declared virtual currencies to be a "commodity" subject to its oversight.[128]   The CFTC also released a number of reports detailing its regulation of virtual currencies.[129]

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the opportunity for individual investors to exchange currency such as U.S. dollars
or cryptocurrencies in return for a digital asset labeled as a coin or token.

Id.

[121] Essaghoolian, *supra* note 35, at 307.

[122] Michael Larkin, *SEC Looks At This When Deciding If A Cryptocurrency Will Be Regulated*, INVESTORS (Jun. 14, 2018) http://www.investors.com/news/sec-explains-cryptocurrency-security-asset-ico-regulation/.

[123] *Id.* (quoting William Hinman, the head of the SEC's division of corporate finance).

[124]*Regulation of Cryptocurrency Around the World*, LIBR. OF CONGRESS, http://www.loc.gov/law/help/cryptocurrency/world-survey.php (last visited Mar. 27, 2019).

[125] *Id.*

[126] *Commodity*, MERRIAM-WEBSTER, http://www.merriam-webster.com/dictionary/commodity (last visited Mar. 27, 2019).

[127] Commodity Exchanges, Jurisdiction of Commission, 7 U.S.C. § 2 (1922).

[128] Testimony of CFTC Chairman Timothy Massad before the U.S. Senate Committee on Agriculture, Nutrition and Forestry, CFTC (Dec. 10, 2014), http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-6.

[129] *A CFTC Primer on Virtual Currencies*, CFTC (Oct. 17, 2017), http://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/labcftc_primercurrencies100417.pdf; *CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Market*, CFTC (Jan. 4, 2018), www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/backgrounder_virtualcurrency01.pdf

Similarly, the IRS treats cryptocurrencies as commodities and expressly rejects cryptocurrency status as a currency.[130] In fact, the IRS treats cryptocurrencies far more broadly, describing it as "property."[131] U.S. District Court Judge Rya Zobel of the District of Massachusetts defined "virtual currencies" as commodities.[132] Bitcoin, Ethereum's Ether, and other popular cryptocurrencies legally qualify as commodities.[133]

With the confusion surrounding the definition of different cryptocurrencies, hard forks tend to affect cryptocurrencies listed as commodities. That way, after a hard fork, the resulting new coin could be under the purview of the CFTC. However, the fight amongst governmental agencies on the right to regulate remains without any foreseeable resolution.

2. How Holders are Affected When the Cryptocurrency Hard Forks

When a cryptocurrency experiences a hard fork and both forks survive, the question becomes: does the holder need to pay tax on the new coin? The Supreme Court considered what constitutes gross income in *Glenshaw Glass*.[134] A holder must report gross income on tax returns.[135] Gross income includes a catchall-phrase in the Internal Revenue Code that includes "gains or profits and income derived from any source whatever."[136] *Glenshaw Glass* sets up a test, requiring "[1] undeniable accessions to wealth, [2] clearly realized, [3] over which the taxpayers have complete dominion."[137]

After a hard fork occurs, a holder only needs to pay tax on the gain satisfied by the *Glenshaw Glass* requirements. First, the holder doubles the amount of coin held. The addition of coin equates to an undeniable accession of wealth unless the hard fork fails or the holder's coin never splits.[138] Second, the holder must have a clearly realized gain. The difficulty with proving this prong lies with the volatility of cryptocurrency. For example, Bitcoin was valued around $930 in December 2016, skyrocketed to $19,783.21 on December 17, 2017, and plummeted to $4,000 in March 2019.[139] Bitcoin has experienced five major falls in value, ranging from negative

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[130] Internal Revenue Serv., Office of the Assoc. Chief Counsel, Notice 2014-21, IRS (2014) http://www.irs.gov/pub/irs-drop/n-14-21.pdf.

[131] Essaghoolian, *supra* note 35, at 321.

[132] Buck, *supra* note 117; Osato Avan-Nomayo, *Cryptocurrencies are Commodities, says U.S. Federal Judge*, ETHEREUM WORLD NEWS (Sept. 28, 2018), http://www.ethereumworldnews.com/cryptocurrencies-are-commodities-says-u-s-federal-judge/.

[133] Edmund Mokhtarian & Alexander Lindgren, *Rise of the Crypto Hedge Fund: Operational Issues and Best Practices for an Emergent Investment Industry*, 23 STAN. J. L. BUS. & FIN. 112, 115 (2018).

[134] Commissioner v. Glenshaw Glass Co., 348 U.S. 426 (1955).

[135] Webb, *supra* note 106, at 292-93.

[136] *Glenshaw Glass*, 348 U.S. at 429 (quoting § 22(a) of the Internal Revenue Code of 1939. pp. 427-433).

[137] *Id.* at 431.

[138] *See* Webb, *supra* note 106, at 298-300 (discussing in detail the reasons for and against why the addition of coin equates an undeniable accession to wealth).

[139] Omkar Godbole, *Bitcoin Price Volatility Is Down 98% Year-on-Year*, COINDESK (Jan. 17, 2019) http://www.coindesk.com/bitcoin-price-volatility-is-down-98-year-on-year. The March 21, 2019

56.7% to negative 93%.[140]   If the value of both coins drops below the value of the original coin, the question becomes whether a clearly realized gain exists. Furthermore, a question as to the amount of the new coin depends on where it came into existence. For example, suppose an individual held one Bitcoin Cash on two different exchanges. One exchange lists the newly minted Bitcoin SV at $25 and another lists it as $10. How much realized gain exists: $50, $35, or $20? Another concern depends on when the coin is realized. If an individual split the Bitcoin Cash when Bitcoin SV is at its lowest value (for example $10 one week after the split), is the realized gain the date it was split or the original fork date? The last criteria is complete dominion. Dominion depends on where the holder stores the currency (e.g., on an exchange, a wallet, or offline) and depends on sufficient notice.[141]

However, receiving the new coin isn't automatic–holders need to perform steps to receive the split coin. Exchanges like Coinbase require a coin be on the exchange prior to the hard fork to receive the split coin after.[142] If the coin remains in cold storage or in a wallet that does not recognize the fork, the second coin will not be realized.[143] A holder who keeps the coin offline must take proactive steps, including downloading an application to split the coin. Owning a coin prior to a hard fork is not enough to trigger tax implications under *Glenshaw Glass*. Therefore, if a holder takes steps to retrieve the new coin, a realized gain exists and one part of the analysis has been fulfilled.[144] If not, a holder misses the opportunity to gain the new coin. The holders of these coins should be aware of the tax implications of the newly minted coins.

Differing developments in a cryptocurrency's code generally result in compatible versions that can run simultaneously. However, when the code is incompatible, a hard fork results and survives dependent on its support within the cryptocurrency's community. Bitcoin, Bitcoin Cash, and Ethereum and some of their forks have survived. However, Bitcoin Cash is the first hard fork to experience resulting litigation.

III. ANALYSIS

First, this section will discuss the recent lawsuit filed against Bitcoin Cash supporters and its effect in the cryptocurrency community. Then, this section will

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value of bitcoin came from *Bitcoin Price*, COINDESK, http://www.coindesk.com/price/bitcoin (last visited Mar. 21, 2019).

[140] Peter Wind, *Top 5 Largest Bitcoin Crashes in History*, COINCODEX (Dec. 2018), http://coincodex.com/article/2703/top-5-largest-bitcoin-crashes-in-history (stating June to November 2011: -93%, August 2012: -56.7%, April 2013: -73.3%, December 2013 through January 2015: -84.6%, and December 2017 to present: -81.8%).

[141] *See* Webb, *supra* note 106, at 303-04 (discussing in detail complete dominion in the Bitcoin/Bitcoin Cash hard fork). Offline storage, also known as "cold storage" keeps a cryptocurrency offline and inaccessible to hackers. Carol Goforth, *The Lawyer's Cryptionary: A Resource for Talking to Clients About Crypto-transactions*, 41 CAMPBELL L. REV. 47, 113 (2019).

[142] *Updated: What to Expect During the Bitcoin Cash Hard Fork*, COINBASE (Nov. 14, 2018), http://blog.coinbase.com/what-to-expect-during-the-bitcoin-cash-hard-fork-f15fd03687db.

[143] *Id.*

[144] Other than depositing a cryptocurrency onto an exchange prior to a fork to receive equal amounts of both coins, holders can use applications after the fork to realize the second coin.

consider the legal argument of antitrust and whether it is applicable when a cryptocurrency hard forks. Next, this section will analyze the legal arguments of duty in negligence claims against developers and miners. This section will examine the legal arguments of conversion in hard forks. Finally, the fallout from cryptocurrency volatility will be analyzed.

A. Bring in the Lawyers!

Those unhappy with the changes in cryptocurrency have also reduced their complaints to lawsuits. While Bitcoin creator Satoshi Nakamoto remains anonymous and cannot be sued,[145] lawsuits can be brought against developers and other supporters of the network.[146] Developers have little in common with presidents of companies and boards of directors and are more akin to inventors. While developers create the code and updates, developers do not profit more than a holder of coin by their position.[147] Developers provide their services voluntarily or for donations.[148] Also, contrary to executives in corporations, the work of core developers–writing code–is open for all to see.[149]

What began as "a routine hard fork upgrade of the Bitcoin Cash blockchain became a struggle for hashing power and chain dominance as Bitcoin Satoshi's Vision (Bitcoin SV), led by Craig Wright, attempted to wrestle control over the Bitcoin Cash blockchain from its original client, Bitcoin ABC."[150] After failing to topple Bitcoin Cash in the attempt to seize control in the market, supporter Benoit Laliberté is

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[145] Jeffrey Tucker, *Why It's Okay That Satoshi's Real Identity Remains Anonymous*, FORBES (Oct. 21, 2018 at 12:55 PM), http://www.forbes.com/sites/jeffreytucker/2018/10/21/i-dont-want-to-know-satoshis-real-identity/.

[146] Complaint, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fla. Dec. 6, 2018), ECF No. 1. Rachel Rose O'Leary, *Ethereum Developer Resigns as Code Editor Citing Legal Concerns*, COINDESK (Feb. 15, 2018), http://www.coindesk.com/ethereum-developer-resigns-as-code-editor-citing-legal-concerns/.

[147] Developers work on teams on an open-source cryptocurrency's code voluntarily, but blockchain developers are in high demand, with an average salary beginning around 85k-100k in February 2018. Blockchain Jobs and Salaries 2018 Report, HACKERNOON (Feb. 23, 2018), http://hackernoon.com/blockchain-jobs-and-salaries-2018-report-45d3e7741c19.

[148] Rodrigo Seira, *Blockchain Protocol Developers are not Fiduciaries: An Analysis of the Cryptoeconomics of Open Source Networks and the Role of Protocol Developers in Public Blockchain Network Governance*, GOOD AUDIENCE (Nov. 26, 2018), http://blog.goodaudience.com/blockchain-protocol-developers-are-not-fiduciaries-49bf436a20ca?gi=4a4e4b192249 (stating: "[y]et, by contributing to open source projects such as Linux or Apache, developers are generally not remunerated and unlikely to get anything of direct value from their contributions unless the project ends up a success"). Seira is an attorney at DLx Law, LLP and graduate of Harvard Law School.

About, BITCOIN UNLIMITED, http://www.bitcoinunlimited.info/about (last visited Mar. 29, 2019).

[149] Bitcoin Cash currently has 19 completed updates, 2 pending updates, 16 updates under development, and 12 under discussion. *Bitcoin Cash Platform & Protocol Development*, CASH COIN DANCE, http://cash.coin.dance/development (last visited Mar. 31, 2019). Bitcoin Unlimited is working on three innovative applications including adjustable block-size cap, xtreme thin blocks, and parallel validation. *Technologies*, BITCOIN UNLIMITED, http://www.bitcoinunlimited.info/technologies/adjustable-block-size-cap (last visited Mar. 29, 2019).

[150] Harper, *supra* note 63.

furthering Wright's attempt to undermine Bitcoin Cash.[151]   Laliberté pursued the Bitcoin Cash community through legal routes in order to inflate the standing of Bitcoin SV within the cryptocurrency world.[152]

Interestingly, Wright and Laliberté have both been sued for tax evasion and fraud.[153] Wright is currently being sued by the Kleiman estate for having converted all the Bitcoin collected by both partners.[154] Together, Wright and Kleiman mined 1.1 million Bitcoin together, which Wright asserts complete ownership.[155]   On August 27, 2019, the district court entered an order establishing the Bitcoin mined and any intellectual property during that time is owned as a "50/50 partnership" and the Kleiman estate "presently retain[s] an ownership interest in the partnership's bitcoin, and any assets traceable."[156] Wright has also been investigated by the Australian Tax Office for tax evasion, including a search of Wright's home before he fled to London.[157] Furthermore, on July 29, 2019, a London court found it did not have jurisdiction to hear a liable case initiated by Wright against Roger Ver.[158]

Laliberté was convicted of over forty counts of insider trading and violating the Quebec Securities Act.[159] Laliberté paid almost $1 million in fines and additional payments in settlement to shareholders.[160]

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[151] Complaint, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fla. Dec. 6, 2018), ECF No. 1.

[152] *Id.*

[153] Sylvain Théberge, *In matter of Jitec - Appeal of Benoît Laliberté's penal conviction - Benoît Laliberté guilty of three other charges*, AUTORITÉ DES MARCHÉS FINANCIERS (Apr. 30, 2009), http://lautorite.qc.ca/en/general-public/media-centre/news/fiche-dactualites/in-matter-of-jitec-appeal-of-benoit-lalibertes-penal-conviction-benoit-laliberte-guilty-of-thre (Laliberté was found guilty on over 40 counts of violating the Quebec Securities Act for fraud, tax evasion, insider trading, and misrepresentation). Complaint, Kleiman v. Wright, No. 18-CV-80176, 2018 U.S. Dist. LEXIS 216417, at *2 (S.D. Fla. Dec. 27, 2018), ECF No. 1.

[154] Complaint, Kleiman v. Wright, No. 18-CV-80176, 2018 U.S. Dist. LEXIS 216417, at *2 (S.D. Fla. Dec. 27, 2018), ECF No. 1.

[155] *Id.* ¶ 64-65.

[156] Recently, the district court in *Kleiman* stated, "[t]here is clear and convincing evidence that Dr. Wright's non-compliance with the Court's Orders is willful and in bad faith . . . Therefore, sanctions under Rule 37(b) are warranted." Kleiman v. Wright, 18-civ-80176 (S.D. Fla. Aug. 27, 2019).

[157] *Id.* ¶ 10.

[158] *Wright v. Ver*, QB-2019-001430 (July 31, 2019).

[159] Sylvain Théberge, *In matter of Jitec - Appeal of Benoît Laliberté's penal conviction - Benoît Laliberté guilty of three other charges*, AUTORITÉ DES MARCHÉS FINANCIERS (Apr. 30, 2009), lautorite.qc.ca/en/general-public/media-centre/news/fiche-dactualites/in-matter-of-jitec-appeal-of-benoit-lalibertes-penal-conviction-benoit-laliberte-guilty-of-thre.
    On February 21, 2008, Court of Québec Judge Lacerte-Lamontagne found Benoît
    Laliberté guilty of 41 violations under the *Securities Act* (the "Act"):
        • for failing to file a report disclosing a change in his control over the
          securities of a reporting issuer, namely, Jitec Inc., thereby violating
          section 97 of the Act (30 counts);
        • for insider trading in the securities of Jitec Inc. while having privileged
          information about the company, thereby violating section 187 of the Act
          (4 counts);
        • for aiding Jitec Inc. in making a misrepresentation in press releases
          that could affect the market value or price of the company's securities,
          thereby violating section 196 of the Act (2 counts);

B. Anti-Trust Claims

In order for an anti-trust claim to prevail, a plaintiff must prove a conspiracy between two or more entities that unreasonably restrains trade.[161] A plaintiff must prove these elements through factual allegations.[162] These factual allegations must specify "who, what, where, and when" giving defendants sufficient notice of the claims and facts.[163]

"The Supreme Court long ago determined that section 1 prohibits only those agreements that *unreasonably* restrain competition."[164]   Courts consider two antitrust frameworks when determining whether restraint was unreasonable: rule of reason and *per se* unlawful.[165] The rule of reason framework is heavily based in fact, relying on a variety of factual issues.[166]   The rarely used *per se* agreement is presumed unreasonable and needs no further inquiry.[167]

1. United's Antitrust Claims Against Bitcoin Cash Developers, Exchanges, and Miners

United's complaint lacks the factual what, where, and when aspects of collusion and restrained trade. Rather, the complaint alleges that developers, exchanges, and miners conspired and agreed "to manipulate the cryptocurrency market for Bitcoin Cash effectively hijacking the Bitcoin Cash network, centralizing the market, and

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- for making a misrepresentation in connection with a transaction relating to securities by promising investors, at the time they purchased shares of Jitec Inc., that contracts worth millions of dollars had been or would soon be signed by Jitec Inc. and another company, thereby violating section 197 of the Act (4 counts);
- and for giving an undertaking relating to the future value or price of the securities of Jitec Inc. in connection with a transaction relating to the securities of the company, thereby violating section 199 of the Act (1 count).

On July 31, 2008, Judge Céline Lacerte-Lamontagne ordered Benoît Laliberté to pay fines totalling $900,000.

Id.

[160] *Id.*

[161] Sherman Act, 15 U.S.C. § 1 (1890).

[162] Ashcroft v. Iqbal, 556 U.S. 662, 678-79 (2009); Bell Atl. Corp. v. Twombly, 550 U.S. 544 (2007).

[163] Duty Free Americas, Inc. v. Estee Lauder Cos., Inc., 946 F. Supp 2d 1321, 1331-32 (S.D. Fla. 2013).

[164] Levine v. Cent. Fla. Med. Affiliates, Inc. 72 F.3d 1538, 1545 (11th Cir. 1996) (citing State Oil Co. v. Khan, 522 U.S. 3, 10 (1997)).

[165] *Khan*, 522 U.S. at 10.

[166] *Id.*

[167] Seagood Trading Corp. v. Jerrico, Inc., 924 F.2d 155, 1567 (11th Cir. 1991) (stating "conclusively presume [*per se* agreements] to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use[,] [t]he Supreme Court has made it clear that the per se label should be applied infrequently and with caution.").

violating all accepted standards, protocols and the course of conduct associated with Bitcoin since its inception."[168]

United alleges no facts of a scheme. United also fails to connect the developers, exchanges, and miners to any non-competitive scheme. Rather, United merely states certain Bitcoin Cash supporters generally conspired, using a hard fork to manipulate the Bitcoin Cash cryptocurrency market.[169] "Forks are a feature of competition in this industry: as United acknowledges, *the Bitcoin Cash network itself* emerged from a 2017 fork from the original Bitcoin network."[170] In fact, Bitcoin Cash announced regular hard forks every six months to continually improve the code and prevent hacking attempts.[171] After the Bitcoin/Bitcoin Cash hard fork, the price of both increased.[172] Here, however, the Bitcoin Cash/Bitcoin SV hard fork drove the price of both down, with Bitcoin Cash's price falling further and Bitcoin SV's pricing increasing after the lawsuit was filed.[173]

A proposed scheme necessary to effectuate an antitrust concern would be if the developers were to communicate with and persuade particular miners to alter the software ran by the miners.[174] However, even if this happened, the remaining developers and miners still have the choice to remain with the original code instead of the updated code, similar to the Ethereum hard fork. When both forks survive, holders still end up with equal amounts of original and new coin plus increased competition in the crypto-world, so it becomes difficult to establish damages.

Even if United's complaint established the necessary facts to tie these entities and individuals to some scheme, the complaint must include a "*market-closing effect* that was committed 'through the use of unfair, or improper practices or procedures.'"[175] An example of a market closing effect would include severe market manipulation for individual economic benefit, such as "pump and dump" schemes.[176]

Instead, the Bitcoin Cash hard fork experienced two market-*opening* effects. First, the hard fork increased competition within the community, as evidenced by two surviving hard forks. In fact, United complains of increased competition, contrary to

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[168] Complaint ¶ 1, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fla. Dec. 6, 2018), ECF No. 1.

[169] *Id.* at ¶ 47.

[170] Defendant's Motion to Dismiss at 14, United Am. Corp. v. Bitmain, Inc., et. al., Case 1:18-cv-25106 (S.D. Fla. Feb. 1, 2019), EFC No. 41.

[171] *Bitcoin Cash Hardforks On May 15th. What Does It Mean For BCH Owners?*, COINSWITCH (Apr. 27, 2018), http://blog.coinswitch.co/everything-you-need-to-know-about-the-upcoming-bitcoin-cash-hard-fork-happening-on-15th-may-a7e62a6fa19e.

[172] *Bitcoin vs. Bitcoin Cash Comparison – All time*, WALLET INVESTOR, walletinvestor.com/compare/bitcoin-vs-bitcoin-cash/interval/all (last visited Mar. 31, 2019) (showing the simultaneous monthly increase of Bitcoin and Bitcoin Cash after the hard fork).

[173] *Id.* (showing the general decrease of both Bitcoin and Bitcoin Cash after the hard fork on November 15, 2018).

[174] Walch, *supra* note 97, at 7.

[175] SD3, LLC v. Black & Decker, 801 F.3d 412, 436 (4th Cir. 2015) (quoting Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478, 488 (1st Cir. 1988) (Breyer, J.)).

[176] A "pump and dump" scheme exists when individuals or entities manipulate the market by falsely inflating the price of stock and then sell the stock at the highest price. Rajeev Dhir, *Pump and Dump Definition*, INVESTOPEDIA (Jan. 18, 2019), http://www.investopedia.com/terms/p/pumpanddump.asp.

the purpose of antitrust legislation.[177] Second, the hard fork encouraged active, decentralized voting. During the hard fork, community members chose sides and, because enough supporters existed on both sides, both sides survived. The result was enhanced competition and diversity.[178]

Another component of United's antitrust claim alleges, without supporting factual allegations, that a few members of the community were incentivized to lower the price of Bitcoin Cash. Actually, the price of Bitcoin Cash was well on the decline prior to the fork. Bitcoin Cash's value decreased from over $1,500 (May 2018) to $420 (November 14, 2018–the day before the hard fork)–a 70% decline.[179] Since the hard fork, the Bitcoin Cash price has dropped even further. In March 2019, the price of Bitcoin Cash was $168.50–nearly 90% decline.[180]

Even taking all the allegations as true, which is highly unlikely, another aspect of antitrust includes harm to the consumer. The November 15, 2018 Bitcoin Cash hard fork did not harm the holders in anyway. In fact, the holders benefited from the hard fork because each holder received 1 Bitcoin SV for every 1 original Bitcoin Cash, thereby doubling the amount of coins a holder had the day before. Even United did not suffer a harm because it not only gained a new amount of coin, equal to the previous holdings, but its business does not depend on mining one coin over the other.[181] United was never prevented from mining one coin over the other.[182]

No one in the Bitcoin Cash community had a legal duty to choose one coin over the other or prohibit a centralized checkpoint.[183] Rather, doing so would violate the fundamental principles of cryptocurrency, decentralization, and democracy.[184] The point is that members of the community voluntarily entered the space and freely choose whichever side for whatever reasons.

In considering the Bitcoin Cash community, the complaint and subsequent pleadings assume the defendants named are the only ones with voting power during the hard fork. All pleadings fail to consider the community at large and the role played by those members in the decentralized community.

In going after many developers, one exchange, one miner, and one portal, the heart of the coin was forgotten: the nodes. The choice comes down to those who provide the mining and non-mining nodes in the blockchain network. Without these

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[177] Complaint ¶ 60, 76-77, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fla. Dec. 6, 2018), ECF No. 1.

[178] Defendant's Motion to Dismiss at 14-15, United Am. Corp. v. Bitmain, Inc., et. al., Case 1:18-cv-25106 (S.D. Fla. Feb. 1, 2019), EFC No. 41.

[179] Defendant's Motion to Dismiss at 1-2, United Am. Corp. v. Bitmain, Inc., et. al., Case 1:18-cv-25106 (S.D. Fla. Feb. 1, 2019), EFC No. 43.

[180] COINBASE, http;//www.coinbase.com (last visited Mar. 29, 2019).

[181] Defendant's Motion to Dismiss at 1-2, United Am. Corp. v. Bitmain, Inc., et. al., Case 1:18-cv-25106 (S.D. Fla. Feb. 1, 2019), EFC No. 43.

[182] *Id.* at 3.

[183] *Id.* at 4.:

> The complaint does not cite or refer to any law, rule, code, or regulation that required Kraken to choose Bitcoin SV over ABC for the BCH ticker. (There is none.) Nor does the complaint address any law, rule, code, or regulation that prohibits implementation of a "centralized checkpoint." (Because, again, there is none.)

Id.

[184] *Id.* at 10.

important features, holders, and supporting merchants, a hard fork would never survive. In the case of the November 15, 2018 hard fork, the heart of the community beat for Bitcoin Cash.

2. Caution For The Accusers

The *United* antitrust claim hinges on violating the original Bitcoin white paper, which was intended to be non-binding and a generalized thought experiment to enhance and support a decentralized currency.[185] Bitcoin was developed to run on peer-to-peer system, where the coin could not be double spent, the code would be based on proof-of-work, maintained by a network of nodes, and be resistant to hacking.[186]

Ironically, Bitcoin SV suffers antitrust concerns itself. When a small number of nodes controls the blockchain ledger, node operators can prevent access and can "collude on price, quality, or output."[187] If an industry is highly concentrated with few buyers and sellers, anticompetitive risks greatly increase.[188] Here, just over 1500 public nodes run on the Bitcoin Cash network[189] whereas Bitcoin SV has 450 nodes.[190] Of the 450 nodes, 4 nodes control over 75% of the hashrate, or voting power.[191] At most, a Bitcoin Cash mining pool of numerous nodes comprised 50.2% of the network, but only for a short amount of time.[192] Therefore, Bitcoin SV has serious implications of anticompetitive behavior and a strong risk of collusion.

United falsely claims that Bitcoin Cash's update created a centralized system, when Bitcoin SV is more centralized itself. If any two entities hold 50% or more of the network hashing power or the cryptocurrency itself, they become "dangerously close to being able to introduce a hostile fork and destroy network integrity."[193] A programmer sought to test double spending of a coin and found the mining of Bitcoin SV chain very centralized, stating: "34% of the hashrate is only 1 node. 59% of the hashrate are 2 nodes. 68% of the hashrate are 3 nodes. 75% of the hashrate are 4

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[185] *Id.* at 14.

[186] COX, *supra* note 7 and accompanying text. Nakamoto, *supra* note 13.

[187] Ryan C. Thomas, Thomas D. York, & Peter A. Julian, *Antitrust Regulations and Blockchain Technology*, *in* BLOCKCHAIN FOR BUSINESS LAWYERS 135, 136 (James A. Cox & Mark W. Rasmussen eds., 2018).

[188] *Id.* at 150.

[189] *Bitcoin Cash Nodes Summary*, COIN DANCE, http://cash.coin.dance/nodes (last visited Mar. 25, 2019). As of the date of this writing, 1518 public nodes were running, 826 running on Bitcoin ABC, 666 running on Bitcoin Unlimited, 9 running on Bitcoin XT, and the remaining on various other compatible versions of Bitcoin Cash. *Id.*

[190] Anirudh VK, *75% of Bitcoin SV [BSV] Hashrate is Contained in 4 Nodes, Double Spending, 0-conf Transactions Possible, Discovers Programmer*, AMB CRYPTO (Dec. 8, 2018), http://ambcrypto.com/75-of-bitcoin-sv-bsv-hashrate-is-contained-in-4-nodes-double-spending-0-conf-transactions-possible-discovers-programmer/.

[191] *Id.*

[192] *Id.* BTC.TOP, a mining pool originating from China is the sixth largest mining pool and mines about 9% of all blocks. Jordan Tuwiner, *Bitcoin Mining Pools*, BUY BITCOIN WORLDWIDE (Jan. 29, 2019), http://www.buybitcoinworldwide.com/mining/pools/. 81% of all mining pools originate from China. *Id.*

[193] DANNEN, *supra* note 3, at 141.

nodes."[194]   The programmer himself provided a video showing how he "double-spent many transactions on the BSV network, with a 90% success rate when transactions are sent to 6 nodes and 100% success rate when sent to 20 nodes."[195]   Moreover, 60% of Bitcoin SV's nodes run on the same entity.[196]

The actions of Wright and Laliberté have caused actual harm to Bitcoin Cash. Wright used social media to manipulate the market[197] and announced he would do everything he could to drive the price of Bitcoin Cash down and his Twitter account was suspended after his threats.[198]   When Wright posted inflammatory messages against Bitcoin Cash,[199] the price of Bitcoin Cash fell and the price of Bitcoin SV increased.[200]   When Laliberté used United to sue Bitcoin Cash supporters, the price of Bitcoin Cash fell and the price of Bitcoin SV increased.[201]

Antitrust is a serious issue, as evidenced by the Sherman Act, and allegations should not be taken lightly.[202]   However, the Bitcoin Cash November 2018 hard fork does not meet any of the elements of antitrust. None of the Bitcoin Cash supporters conspired to unreasonably restrain competition. A conspiracy does not exist simply because one chain is strongly supported. This litigation is the very thing *Twombly* is meant to stop. No facts of an agreement on the part of Bitcoin Cash supporters to reduce competition exist. Rather, proponents of Bitcoin SV meet some, if not all of the elements of an antitrust claim. Bitcoin SV proponents used media to manipulate the market, failed to uphold the original white paper by allowing double-spending of coin, and attempted numerous times to drive the price of its competitor, Bitcoin Cash, into the ground.

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[194] Anirudh VK, *supra* note 190. The programmer and computer security researcher is known as Reizu. *Id.*

[195] *Id.*; Reizu, *Double-spending 0-conf POP! BSV*, VIMEO https://vimeo.com/305156128.

[196] *See* AnTy, *Bitcoin SV is a Recipe for Disaster with 60 Nodes Running on Single Service*, BITCOIN EXCHANGE GUIDE (Mar. 17, 2019), http://www.bitcoinexchangeguide.com/bitcoin-sv-is-a-recipe-for-disaster-with-60-nodes-running-on-single-service/.

[197] Girimath, *supra* note 74.

[198] *Id. See also* Teuta Franjkovic, *Hash War is On: Craig Wright Threatens to Crash Bitcoin Price Down to $1000*, COINSPEAKER (Nov. 15, 2018 at 1:17 PM UTC), http://www.coinspeaker.com/hash-war-is-on-craig-wright-threatens-to-crash-bitcoin-price-down-to-1000 (posting some of Wright's messages and social media posts threatening Bitcoin Cash and its supporters).

[199] *Id.* Wright's twitter account was suspended due to his threats.

[200] United filed its lawsuit on December 6, 2018. On December 5, 2018, the price of Bitcoin Cash closed at $149.85 and on December 7, 2018, the price opened at $107.49, a 28% decrease. *Historical data for Bitcoin Cash*, COINMARKETCAP, http://coinmarketcap.com/currencies/bitcoin-cash/historical-data/?start=20180329&end=20190329 (last visited Mar. 29, 2019).

[201] On December 5, 2018, the price of Bitcoin SV closed at $93.65. On December 7, 2018, the price closed at $113.67, a 17% increase. *Historical data for Bitcoin SV*, COINMARKETCAP, http://coinmarketcap.com/currencies/bitcoin-sv/historical-data/?start=20130428&end=20190329 (last visited Mar. 29, 2019).

[202] Sherman Act, 15 U.S.C. § 1 (1890).

C. Negligence Claims

Negligence claims require a plaintiff to prove duty, breach, proximate cause, and damages.[203] Two main difficulties in proving a negligence claim in the hard fork include duty and damages. United's complaint alleges claims of negligence.[204] However, if developers have no duty, negligence claims will always fail to state a claim.

1. Duty

In order to have a duty, a plaintiff must identify the parties, establish a relationship between the parties, and whether that relationship should be subject to heightened duties.[205] Normally, a duty requires a person to reasonably prevent a foreseeable harm.[206] For example, a landlord owes a duty to salt the steps when ice is present or a passerby can slip on those icy stairs. Duties arising from legal relationships hold the person in power to a higher standard: lawyer-client, physician-patient, trustee-beneficiary.[207] These fiduciary duties exist when certain people are responsible for managing another person's asset and a possibility exists where those people might abuse their power in the relationship.[208] These people are called fiduciaries and they have duty of loyalty (e.g., a physician must not limit the patient's treatment to the pharmaceutical company the physician gets paid to promote) and the duty of care (e.g., a physician diagnoses a patient without any patient information).[209] A fiduciary duty generally arises from a contract. However, rarely will a person take the responsibility of a fiduciary without the legal obligation. Those people are called *de facto* fiduciaries.[210]

Some argue that core developers and significant miners have a fiduciary duty or a duty under a negligence theory and should be held accountable.[211] Both sides present arguments regarding fiduciary duty.[212] However, these individuals or entities maintain severely different roles.

a. Do Developers Have a Fiduciary Duty?

Developers work voluntarily or are paid through donations to make decisions on how to write, update, and revise code.[213] Some legal scholars argue that developers

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[203] Century 21 Deep South Properties, Ltd. v. Corson, 612 So. 2d 359, 373 (Miss. 1992).

[204] Complaint ¶ 86-97, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fl Dec. 6, 2018), ECF No. 1.

[205] Limones v. Sch. Dist. of Lee Cty., 161 So.3d 384, 389 n.5 (Fla. 2015).

[206] Vendrella v. Astriab Family Ltd. P'ship, 87 A.3d 546, 559 (Conn. 2014).

[207] Seira, *supra* note 148.

[208] *Id.*

[209] *Id.*

[210] Howe v. Links Club Condominium Ass'n, 823 S.E.2d 439 *31-32 (N.C. Ct. App. 2018).

[211] Walch, *supra* note 97, at 17-18.

[212] *Id.* at 2.

[213] Reyes, *supra* note 17, at 3.

owe a duty of care to community members and coin holders centers around the service they offer, the power they hold, the innate trust of the position and the possibility of risk.[214]   However, developers do not function as fiduciaries, do not create the same risks, and therefore, should not be held to the same legal responsibilities.

When an individual actively manages another's money, that individual is obligated to duties of loyalty and care.[215]   Common fiduciaries include lawyers, physicians, and directors[216] of corporations.[217]   Fiduciaries are generally compensated for the services they perform, but sometimes work pro bono.[218]   Fiduciary law protects clients, patients, and shareholders by holding their fiduciary counterparts liable for botching a case,[219] failing to provide informed consent,[220] or having a conflict of interest.[221]

The argument for forcing fiduciary duties on developers centers around developers holding themselves out to be leaders, exercising power within open-source cryptocurrencies through the ability to change the code, creating *de facto* fiduciaries.[222]   While this is an intriguing idea, an elephant does not fit in a mouse-sized hole. This theory fails to discern why fiduciaries exist in the first place. Few courts recognize *de facto* fiduciaries and those courts only apply this legal principle to brokers assuming or given control of another's account and voluntarily undertaking the duties and responsibilities of a fiduciary.[223]   "The standard for finding a de

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[214] *Id.* 10 (citing Tamar Frankel).

[215] Seira, *supra* note 148.

[216] *See Bitcoin vs. Bitcoin Cash Comparison – All time*, WALLET INVESTOR, http://walletinvestor.com/compare/bitcoin-vs-bitcoin-cash/interval/all (last visited Mar. 31, 2019) (showing the simultaneous monthly increase of Bitcoin and Bitcoin Cash after the hard fork).

[217] *Id.*

[218] *Id.*

[219] Barbara King Family v. Voluto Ventures LLC, No. 100219/04, 2006 N.Y. Misc. LEXIS 2709, at *13 (N.Y. Sup. Ct. Aug. 21, 2006) (breach of fiduciary duty against an attorney requires a plaintiff to show that the attorney's failure caused the plaintiff's actual damages).

[220] Drew v. Tenet St. Mary's, Inc., 46 So. 3d 1165, 1170 (Fla. Dist. Ct. App. 2010) (failing to disclose adverse effects of a substance is a breach of the fiduciary duty of informed consent).

[221] Wachovia Bank & Trust Co., 269 N.C. at 715, 153 S.E.2d at 459-60.

> The reasons for the loyalty rule are evident. A man cannot serve two masters. *He cannot fairly act for his interest and the interest of others in the same transaction.* Consciously or unconsciously, he will favor one side or the other, and where placed in this position of temptation, there is always the danger that he will yield to the call of self-interest.

Id.

[222] Walch, *supra* 97, at 2; *Howe*, 823 S.E.2d at *31-32.

> [T]here are two types of fiduciary relationships: (1) those that arise from legal relations such as attorney and client, broker and client . . . , partners, principal and agent, trustee and cestui que trust, and (2) those that exist as a fact, in which there is confidence reposed on one side, and the resulting superiority and influence on the other.

S.N.R. Mgmt. Corp. v. Danube Partners 141, LLC, 189 N.C. App. 601, 613, 659 S.E.2d 442, 451 (2008).

[223] Leib v. Merrill Lynch, Pierce, Fenner & Smith, Inc., 461 F. Supp. 951, 953 (E.D. Mich. 1978), *aff'd*, 647 F.2d 165 (6th Cir. 1981).   Mertens v. Hewitt Assoc., 508 U.S. 248, 262 (1993) (providing the limited types of *de facto* fiduciaries).

facto fiduciary relationship is a demanding one"[224] and "[o]nly when one party figuratively holds all of the cards — all of the financial power or technical information, for example" would courts find that a heightened, special circumstance of a fiduciary relationship exists.[225] *De facto* fiduciary relationships come with extreme responsibilities and cannot come from "arm's-length transactions," rather "both parties [must] understand that a special trust or confidence" exists.[226]

The predominant factor test is used to determine whether state law (for a service) or UCC (for a good) applies.[227] The factors consider the language of the contract, nature of the supplier's business, and the value of the materials.[228] Cryptocurrency comes from code and the only considerable contract would be implied, through using or investing in the cryptocurrency.[229] The value of the cryptocurrency is publicly available, with many exchanges tracking its every movement.[230]

Courts have routinely used the predominant factor test regarding software and programmer's skill.[231] When service is incidental to the sale of software, the sale of the software is predominant.[232] A purchaser of software buys a result of a programmer's skill.[233] The Indiana Appellate Court held that when code is custom-designed for a specific consumer's needs, it leans more towards a services contract.[234] However, the Ninth Circuit disagreed, finding the sale of the code to be predominant and system upgrades were incidental to purchasing the software.[235]

Furthermore, regulators do not consider cryptocurrency a service.[236] Cryptocurrency is regulated either as a commodity[237] or a security.[238] Developers are more similar to inventors and literary authors.[239] Developers and other programmers write code, programs, and applications, which are "works of authorship

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[224] Austin v. Regal Inv. Advisors, LLC, 2018 NCBC LEXIS 3, *18 (Jan. 8, 2018) (quoting Lockerman v. S. River. Elec. Membership Corp., 794 S.E.2d 346, 352).

[225] *Austin*, LLC, 2018 NCBC LEXIS 3, *18 (quoting S.N.R. Mgmt. Corp. v. Danube Partners 141, LLC, 659 S.E.2d 442, 451 (2008)).

[226] General Acquisition, Inc. v. GenCorp Inc., 766 F. Supp. 1460, 1473 (S.D. Ohio 1990) (quoting Stone v. Davis, 419 N.E.2d 1094, 1098 (Ohio 1981)).

[227] *See* Princess Cruises v. GE, 143 F.3d 828, 833 (4th Cir. 1998) (determining that the factors include the language of the contract, the nature of the supplier's business, and the value of materials).

[228] *Id.*

[229] COX, *supra* note 7, at 1-2.

[230] *Id.*

[231] Systems Design & Mgmt Info., Inc. v. Kan. City Post Office Empl. Credit Union, 788 P.2d 878, 882 (1990).

[232] *Id.*

[233] *Id.*

[234] In Data Processing v. L. H. Smith Oil Corp., 492 N.E.2d 314, 319 (Ind. App. 1986).

[235] RRX Industries, Inc. v. Lab-Con, Inc., 772 F.2d 543, 546 (9th Cir. 1985).

[236] *See infra* Background Section D.

[237] *See infra* Background Section D(1)(c).

[238] *See infra* Background Section D(1)(a).

[239] However, if courts establish a precedent that a duty is owed by participants in a cryptocurrency, how far would the theories of duty of loyalty and duty of care go? At what point would changing the code become a violation of the duty of loyalty and who would ascertain that? Would there come a point where one node would be liable to another node if a power outage occurs due to a decrease in the network size or less computational effort in the blockchain?

entitled to protection under the Copyright Act."[240] As an original work of authorship, code is substantially similar to Robert Frost's poem, but instead of using words, developers use numbers and symbols to create code. Similar to inventions, developers produce a code as a product to be used by all.

Developers, unlike inventors and authors, do not take advantage of copyright laws because they do not desire economic compensation for their work. Also, unlike fiduciaries, developers are not generally compensated for their efforts.[241] Developers volunteer their time and skill in collaborative efforts to improve a code and receive a non-economic reputational incentive for working on the code.[242] Few developers, specifically those starting ICOs, also receive an economic incentive with pre-mined coins.[243]

When a company holds a copyright, the company's directors have fiduciary duties of loyalty and care when maintaining, buying or selling and are entitled to rational basis when using the business judgment rule in making decisions.[244] This duty should not apply to developers because developers are akin to a creator of copyright. Most developers get into the space because they believe in decentralized cryptocurrency and want their chosen cryptocurrency to be better than other cryptocurrencies. Furthermore, a cryptocurrency is not dependent on any specific developer, anyone may propose a change in the code.[245]

While cryptocurrency maintains an organizational structure, the structure is vastly different from the American political model.[246] These online communities reject the ideas of corporate governance and centralized money. Instead, they look to a "coordination model" on a public blockchain, where the first layer allows participants to run any software in any capacity allowed.[247] Participants retain the "ultimately decision-making authority."[248] In the second layer, developers maintain and revise the software and coordinating changes that reflect participants' desires.[249]

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[240] Member Services v. Security Mutual Life Insurance Co., 2010 U.S. Dist. LEXIS 103776, at *61 n.33 (N.D.N.Y. Sep. 30, 2010) (referring to the Copyright Act, 17 U.S.C.S. § 101, 102 (1976)).

> The Copyright Act defines a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101. Computer programs can be expressed in either source code or object code. "Source code is the computer program code as the programmer writes it, using a particular programming language." Compendium of Copyright Office Practices, § 321.01. Source code is a high level language that people can readily understand. "Object code is the representation of the program in machine language [binary] ... which the computer executes."

Syntek Semiconductor Co., Ltd. v. Microchip Technology Inc., 307 F.3d 775, 779 (9th Cir. 2002).

[241] Seira, *supra* note 148.

[242] *Id.*

[243] *Id. See also*, Infourminutes.co, *Whitepaper In Four Minutes – Ripple*, HACKERNOON (May 2, 2018), https://www.hackernoon.com/whitepaper-in-four-minutes-ripple-a27103e4d265. (showing that the developers who created Ripple kept 20%).

[244] Seira, *supra* note 148.

[245] For example, Bitcoin Cash has a number of development teams working on various updates, applications, and fixes in the code.

[246] Seira, *supra* note 148.

[247] *Id.* Vitalik Buterin, Notes on Blockchain Governance, VITALIK BUTERIN (Dec. 17, 2017), http://vitalik.ca/general/2017/12/17/voting.html.

[248] *Id.*

[249] *Id.*

Because they are not formal participants, developers cannot force changes on network participants.[250] If the community members disagree with a developer's code, they vote against its implementation.

Each hard fork is effectuated depending on the number of "votes" it receives from nodes, and support it receives from the community.[251] Just because one chain is supported more strongly than another does not mean any entity in the community had a duty to support one fork over another. In the end, the system allows for a fork to survive based on the strength it has in the community, not due to any economic-based negligence.

While part of the argument for forcing fiduciary duties on developers depends on community trust in developers, the argument fails to consider the emerging field of cryptoeconomics.[252]   The economic activity in cryptoeconomic systems, or public blockchains, depends on online trust, online reputation, secured communications, decentralization, network census protocols, the currency itself, etc.[253] Compare this with traditional legal fiduciaries of physicians, lawyers, and trustees.

Physicians contract with patients to create the relationship and must act as a reasonably well-qualified physician in the same or similar circumstances.[254] Lawyers contract or assume relationships with clients and must act as reasonably well-qualified lawyers in the same or similar circumstances.[255] Trustees are appointed to the role of management for beneficiaries and cannot use funds for their own purposes.[256] A developer doesn't fall under any of these categories and should not be

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[250] *Id.*

[251] *Id.*

[252] Mark Fenwick, Wulf A. Kaal, & Erik P.M. Vermeulen, *Legal Education in the Blockchain Revolution*, 20 VAND. J. ENT. & TECH. L. 351, 365 (2017).

[253] *Id.* at 373-74. DANNEN, *supra* note 3, at 140-41.

[254] Zabler v. Weber, 899 N.W.2d 737 (Wis. App. 4th. 2017). A physician owes a patient a fiduciary duty of informed consent such as not putting a physician's financial interests above patient's interests.

[255] Beck v. Law Offices of Edwin J. Terry, Jr., P.C., 284 S.W.3d 416, 429 (Tex. App. 2009).

> Not every complaint that can be said to implicate a lawyer's fiduciary duties is actionable separately from a negligence claim. Because a lawyer's "standard of care in negligence claims is often defined by the characteristics of that inherent fiduciary relationship . . . courts refer to the fiduciary relationship that the lawyer has to the client and use fiduciary standards to define the standard of care required of lawyers." Consequently, "courts have most often applied those standards to conclude that the claims are really negligence, not breach-of-fiduciary-duty claims." *Id*. To distinguish independently actionable breach-of-fiduciary-duty claims against lawyers from those that sound in negligence, Texas courts have generally held that a breach-of-fiduciary-duty claim focuses on "whether an attorney obtained an improper benefit from representing the client," while a negligence claim focuses on "whether an attorney represented a client with the requisite level of skill." "Breach of fiduciary duty by an attorney most often involves the attorney's failure to disclose conflicts of interest, failure to deliver funds belonging to the client, placing personal interests over the client's interests, improper use of client confidences, taking advantage of the client's trust, engaging in self-dealing, and making misrepresentations."

Id.

[256] In re Trusteeship of Williams, 591 N.W.2d 743, 751 (Minn. Ct. App. 1999) (examining Minnesota Prudent Investor Act, stating: "A trustee who has special skills or expertise, or is named trustee in reliance upon the trustee's representation that the trustee has special skills or expertise, has a duty to use those special skills or expertise. This standard, which is part of the

held to the same high standard as these service professionals placed in positions of trust. As creators and maintainers of the code, developers are vastly different from those with fiduciary duties. Developers provide a good, code, for little or no compensation, and the risks associated with fiduciaries is not applicable with developers.

Public blockchain is not the environment for fiduciary duties. Advocates for fiduciary duties attempt to force an elephant in a mouse-sized hole. These legal theories of fiduciary duty are incompatible with public blockchain technology and cryptocurrency. Because these online communities reject the ideas of corporate governance and money, the decisions lie with the community members, not with the developers. Any imposition of fiduciary duty in this context suggests either a lack of understanding of either the basics of fiduciary duties or the realm of public blockchain, or both.

b. Do Minders, Node Operators, or Exchanges have a Fiduciary Duty?

Miners, node operators, and exchanges should also not be weighted with fiduciary duty. The process of mining is not only new, but the process itself has little to do with choosing a specific chain of a hard fork apart from economic considerations.[257] For example, mining Bitcoin is only 9% more profitable than mining Bitcoin Cash, but is 43% more profitable than mining Bitcoin SV.[258] Exchanges list coins based on profitability as well.[259]

However, an argument exists that miners and full node operators should be held to the high standard of fiduciary duty.[260] Miners process the transactions, retain the complete blockchain ledger, and receive compensation in the form of transaction fees for providing this service.[261] Essentially, some argue holders entrust miners with their cryptocurrency in this process.[262] Miners also use their voting power to have the final say regarding any implementation of updated or new code from the developers.[263]

While these are sound concerns, larger cryptocurrencies distribute the voting power amongst many miners. For example, the sixth largest mining pool in the world only reached 51% hashrate, or voting power, for a very short amount of time of

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Minnesota Prudent Investor Act, reflects a trend in the law of protecting beneficiaries by regulating professional trustees' conduct").

[257] DANNEN, *supra* note 3, at 140-41.

[258] Josiah Wilmoth, *Bitcoin is 43% More Profitable to Mine Than Craig Wright's 'Miner-Friendly' BCH Fork*, CCN (Dec. 6, 2018), http://www.ccn.com/bitcoin-is-43-more-profitable-to-mine-than-craig-wrights-miner-friendly-bch-fork.

[259] Chong, *supra* note 38.

[260] Angela Walch, *The Fiduciaries of Public Blockchains* (unpublished manuscript), http://blockchain.cs.ucl.ac.uk/wp-content/uploads/2016/11/paper_20.pdf; Angela Walch, *Call Blockchain Developers What They Are: Fiduciaries*, AM. BNKR. (Aug. 9, 2016), http://www.americanbanker.com/opinion/call-blockchain-developers-what-they-are-fiduciaries. Reyes, *supra* note 17, at 30.

[261] Reyes, *supra* note 17, at 31.

[262] *Id.* at 32.

[263] *Id.*

Bitcoin Cash[264] compared to Bitcoin SV, which maintains a 75% hashrate amongst only four miners.[265]   Exchanges should also not be held to a fiduciary standard. Exchanges such as the DOW and NASDAQ stock markets are regulated but have no legal duty (let alone a heightened duty) to the holders of stock. Such an imposition would be inappropriate here.

    Miners, full node operators, and exchanges should not be held to a fiduciary duty standard. The only exception would be at the beginning of a cryptocurrency fork where few miners control a majority of the voting power. Because no precedent exists imposing a duty on a market participant to protect other participants from economic loss without a special relationship, courts will doubtfully force such a requirement today.

c. What About Common Law Negligence Duty?

    To establish a professional negligence claim, the plaintiff needs to assert the relevant standard of care to establish a duty.[266] There is no current standard of care in the crypto-world, as it has generally been left unregulated.[267]   If there were a standard of care, it would depend on who is being charged with negligence.

    United alleges it was owed a duty of care "to abide by the Whitepaper [sic] and accepted standards and protocols" and that it suffered a harm from defendant's foreseeable conduct.[268] This duty of care seems in line with general negligence, not a fiduciary duty, to prevent a foreseeable harm. The only relationship that United alleges is a participation in the Bitcoin Cash network.[269]   Participating in a cryptocurrency network does not create a special relationship that imposes a duty to protect an economic interest in a cryptocurrency. "No court has ever imposed a duty on a market participant to protect other participants from economic losses absent allegations of some other 'special relationship.'"[270] Creating that relationship would result in serious ramifications, including increased unnecessary litigation.

    Regarding the hard fork, United accused developers, exchanges, and a miner. Each entity or individual cannot simply be held to the same standard, because their roles are so fundamentally different. Developers work with the code to come up with additions, corrections, or experimental features in the effort to improve the cryptocurrency. Multiple teams of developers can be working on compatible code chains for the same currency.

    Holders of cryptocurrency reasonably intend to take the risk associated with any novel venture. Individuals and entities participate in these unregulated areas at their own risk. Fiduciary duty should only come into play when there are material

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[264] Tuwiner, *supra* note 192.

[265] Anirudh VK, *supra* note 190, and accompanying text.

[266] Armacost v. Davis, 462 Md. 504, 527 (Md. 2019)

[267] Fenwick, *supra* note 252.

[268] Complaint ¶¶ 94, 97, United Am. Corp. v. Bitmain, Inc., et. al., No. 1:18-cv-25106 (S.D. Fl Dec. 6, 2018), ECF No. 1.

[269] *Id.* at ¶¶ 87, 94.

[270] Defendant's Motion to Dismiss at 24, Case 1:18-cv-25106 (S.D. Fl Feb. 1, 2019), EFC No. 41 (citing Abel & Buchheim, P.R., Inc. v. Citibank Nat'l Ass'n, 2017 WL 3731002, at *4 (S.D. Fla. Aug. 28, 2017)).

changes in code development, such that the code is no longer recognizable from its original code.[271]   Cryptocurrencies have a mechanism in place, the decentralized voting structure that allows the community to choose to remain with the currency as is, update it, or accept a code incompatible with the update.

Developers do not have a duty to participants in the public blockchain. While duties have been suggested in legal academia and litigation, a duty cannot exist merely on the supposition that developers participate or hold themselves out to be leaders. Nor should miners or node holders be held to this legal duty. Because the duty isn't clearly described, some may assume a duty exists *per se*.   If left unanswered, this theory may be blindly accepted as a valid legal theory to the detriment of the community.

2. Damages

Even if, hypothetically speaking, a duty was owed, no damages exist in the Bitcoin Cash hard fork. Every holder had the same amount of Bitcoin Cash before and after the hard fork occurred. Because Bitcoin SV has maintained enough support to have traction, every holder now has the same amount of Bitcoin SV equal to the number of Bitcoin Cash coins. United does not argue a loss in business due to a special relationship or based on negligent misrepresentation. Therefore, if no damages exist, this claim cannot possibly survive a motion to dismiss.

United's business also does not depend on solely mining Bitcoin SV. United has the option to mine the most profitable coin at any given coin. Therefore, United suffered no harm because it not only gained a new amount of coin in addition to its previous holdings, but its business did not depend on mining one coin over the other.[272]

D. Conversion Claims

Conversion claims require a plaintiff to prove another party wrongfully asserted dominion over another's property.[273]   The *United* complaint fails both legally and factually. Legally, there was no dominion of United's property by anyone other than United. Factually, if United had one Bitcoin Cash on November 14, 2018, it had one Bitcoin Cash and one Bitcoin SV on November 15, 2018. A conversion claim is preposterous, considering United doubled the amount of coin it owned, ranging at differing prices, because it realized both coins in the hard fork. Because United now holds both coins, it cannot in good faith claim property has been converted from it. Furthermore, because no property was taken, none can be returned.

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[271] Dirk A. Zetzsche, Ross P. Buckley, & Douglas W. Arner, *The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain*, 18 U. ILL. L. REV. 1363, 1398 (2018).

[272] Defendant's Motion to Dismiss at 1-2, United Am. Corp. v. Bitmain, Inc., et. al., Case 1:18-cv-25106 (S.D. Fl. Feb. 1, 2019), EFC No. 43.

[273] Life Spine, Inc. v. Medco Consultants, LLC, 2019 U.S. Dist. LEXIS 47268, at *9 (N.D. Ill. Mar. 21, 2019) (stating the defendant must assert unauthorized control over property in another's property and plaintiff must assert return of his or her property).

Claims such as these are poorly disguised attempts to create strife and legal problems for other members in the crypto-community. United's lack of respect for the law is clear. United brought this lawsuit to scare Bitcoin Cash developers out of the Bitcoin Cash community. Unfortunately, in that respect, United and Bitcoin SV are succeeding. Similar to the discussion above on damages, this count is unlikely to succeed on its merits.

E. Effects on the Crypto-Community

With an emerging legal movement holding individual developers liable for undefined duties and actions, the cryptocurrency community recoils with ramifications currently enveloping the Bitcoin Cash community. With open source software developers, miners, exchanges, and other programming companies headed into defensive litigation, developers particularly feel the intense pressure and are abandoning their work.

Frivolous lawsuits such as United have led to developer resignations. Amaury Séchet, lead developer for Bitcoin Cash, cites being sued in the United lawsuit as a reason for leaving the development team. 274

> "BU membership is composed of numerous BSV supporters. Not only some of them think that suing developers (including myself) providing open source software for free is good, but many are openly hostile to Bitcoin Cash. . . . It's a mixed bag. A lot of Wright stooges, and a leadership which has the commitment of a wet noodle."[275]

Antony Zegers, a prominent cryptocurrency developer left the following statement after he resigned:

> The event that really decided my opinion is the lawsuit against several people in the Bitcoin Cash community, including the developers Amaury Séchet, Jason Cox, and Shammah Chancellor. These are my friends and colleagues, and using a frivolous lawsuit to target them with the force of law in this manner is despicable worthy of condemnation. While the parties responsible for this aggression seem to be shrouded in mystery, they represent a part of the BSV community.[276]

Another developer, Tomislav Dugandzic also resigned in protest:

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[274] C. Edward Kelso, *BCH Developer Amaury Séchet Leaves Bitcoin Unlimited in Protest, Solidarity,* COINSPICE (Mar. 25, 2019), http://coinspice.io/news/bch-lead-developer-amaury-sechet-leaves-bitcoin-unlimited-in-protest-solidarity/.

[275] Amaury Sechet, *It is Not That I Want to Get Rid of BU, They Did it to Themselves*, TRUSTNODES (Mar. 25, 2019), http://www.trustnodes.com/2019/03/25/amaury-sechet-it-is-not-that-i-want-to-get-rid-of-bu-they-did-it-to-themselves.

[276] For the full letter of resignation of Antony Zegers a.k.a. Mengerian, *see* Antony Zegers a.k.a. Mengerian, *Why I am Leaving Bitcoin Unlimited*, MEDIUM (Mar. 20, 2019), http://medium.com/@Mengerian/why-i-am-leaving-bitcoin-unlimited-263f9c7a959b.

> After careful consideration I too am hereby resigning my BU membership. Antony Zegers and Amaury Sechet have already resigned in protest and so am I. The current BU leadership's collaboration with the BSV community is unacceptable and I want no part in it.[277]

Shammah Chancellor, also named in the lawsuit, recently resigned.[278] Peter Rizun, another well-known developer wrote about the protest and why so many developers are resigning.[279] First, Rizun expresses the developers' desire to remain and maintain a peer-to-peer system with low fees.[280] Developers want Bitcoin Cash to exist on the free market, not limited to the actions of a few.[281] Bitcoin Cash developers seek open implementations and inclusion of non-technical community participation.[282]

With developers under threat of suit and resigning, the Bitcoin community is left outraged and fearful of the precedent this sets.[283] Cryptos4pz states,

> How can anyone sue [an] *open source* developer for anything? That would be like me volunteering to make free cool birthday cake designs, then my designs get used by thousands of people, then Calvin gets involved in the space, finds he doesn't like some aspects of something, then sues me for creating free designs?!!? WTF?? If that holds any substance anyone can be liable to be sued for anything they do and give away freely![284]

In what appears to be a collection of frivolous arguments and a waste of court resources, any judicial determination of duty by the developers would fundamentally undermine what cryptocurrency stands for. Even if Bitcoin SV were to win this way, the precedent set by these lawsuits could easily turn on Wright and Laliberté. Laliberté and his company could also be sued in their capacity as miners and node

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[277]   Tomislav   Dugandzic,   TWITTER   (Mar.   25,   2019   at   8:14   PM), http://twitter.com/todu77/status/1110379550964412416?s=21.

[278]   Shammah   Chancellor,   *Every   new   beginning*,   #!BLAG   (Mar.   28,   2019), http://shablag.com/article/every-new-beginning/.

[279] Peter Rizun, *Why you should resign from Bitcoin Unlimited*, MEDIUM (Mar. 27, 2019), http://medium.com/@peter_r/why-you-should-resign-from-bitcoin-unlimited-a5df1f7fe6b9.

[280] *Id.*

[281] *Id.*

[282] *Id.*

[283] JonathanSilverblood, *Antony Zegers: Why I am leaving Bitcoin Unlimited*, REDDIT (Mar. 20, 2019),
http://www.reddit.com/r/btc/comments/b3f2io/antony_zegers_why_i_am_leaving_bitcoin_unlimited/
(reddit user Zectro stated, "I would hate to see this become a pattern and for BU to get completely overrun by CSW-truthers . . . because of how expensive the legal fees to combat such a lawsuit are, not to mention how stressful being the target of a lawsuit can be." Also, LovelyDay stated, "It's as much about stalling BCH development by tying important devs up or hurting them financially."). CoinSpice, *BCH Lead Developer Amaury Séchet Leaves Bitcoin Unlimited in Protest, Solidarity*, REDDIT,
http://www.reddit.com/r/btc/comments/b5ahq6/bch_lead_developer_amaury_s%C3%A9chet_leaves_bitcoin/ (last visited Mar. 26, 2019).

[284] *Id.*

operators. Wright could be sued in his capacity as a developer–not only for Bitcoin SV, but also for claiming to be Satoshi Nakamoto, developer of Bitcoin.

IV. PROPOSAL

Developers do not have a fiduciary duty in developing a cryptocurrency's code. However, this Article also acknowledges the validity of arguments for protecting the consumer in the crypto-world. Therefore, this Article proposes that internal regulation of public blockchain networks would be far more effective than external governance. In the meantime, developers and miners should consider the use of international contract lawyers to protect themselves from third parties attempting to force impractical fiduciary duties.

A. Self-Governance and Internal Regulations

The American system trains consumers to expect a certain level of protection when it comes to money and forces a fiduciary relationship on anyone handling that money, particularly in banking law. This presumption does not exist in the crypto-world and external governance is not the solution. Certain governments ban cryptocurrencies while others have begun implementing regulations.[285] Because cryptocurrency runs on a distributed, global network, there can be no uniformity amongst nations in the regulation process. While lawsuits are being filed in the United States evoking duties on those in Japan and elsewhere, litigation could easily be filed in other countries, subjecting Americans and others to multiple lawsuits, double-jeopardy, or worse.

Public blockchain networks should be internally regulated to prevent abuse and scheming from one or a small group of individuals or entities. These internal regulations already include the use of hard forks, by democratically allowing community members to choose which fork to support. However, these internal regulations could go further.

But it should not be up to one judge or magistrate in any country to decide what level of internal regulations should be instituted. Instead of placing the power in the hands of one individual, public blockchain governance should be akin to a pseudo-sovereign and the choice of which safe-guards to implement should be left to the coin holders. One type of regulation includes modeling protocols after corporate governance.[286] Another internal regulation could be designing an aspect of the code to diagnose and adapt to uncertainties by including a "referee function" which

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[285] *Countries Where Bitcoin is Banned*, BUY BITCOIN WORLDWIDE, http://www.buybitcoinworldwide.com/bitcoin-bans/ (last visited Apr. 7, 2019) (China, Russia Thailand, Vietnam, Taiwan, Colombia, Ecuador, Bolivia, Bangladesh, and Kyrgyzstan have previously banned Bitcoin). *See* Fredrick Reese, *Bitcoin Regulations by Country (Updated for 2018)*, Bitcoin Market J. (Sep. 28, 2018 at 8:00 AM), http://www.bitcoinmarketjournal.com/bitcoin-regulation-by-country/ (listing countries and respective regulations regarding Bitcoin).

[286] Reyes, *supra* note 17, at 26.

determines the balance between benefit and potential risk to the community if implemented.[287]

The best approach would be for community members to work together and define the structure of governance internally. Developer Peter Rizun expressed his vision of governance like the democratic process, including "both technical and non-technical members." He advocates letting "[n]on-technical provide the balance" and remembering the basic idea of cryptocurrency–decentralized money.[288] Because national government regulations are ever increasing, now is the perfect time for internal regulations.

B. Developers and Miners Should Employ International Contract Counsel

This Article considers the use of contract law preferable over tort law when dealing with the novel idea of cryptocurrency. Because legal academics and practicing lawyers are imposing duties on developers, miners, and node operators, these individuals and entities should consult international contract attorneys to initiate legal protections.

First, perhaps updating a cryptocurrency's "constitution"[289] and files that accompany code to include contract provisions and providing notice would provide protections to developers and miners. Second, cryptocurrency governance could be organized similarly to a corporation, LLC, or entity that protects its members with limited liability.[290] This idea was originally proposed by Professor Carla Reyes and could provide significant protections to cryptocurrency community members.[291]

Finally, because frivolous litigation is always a concern, this Article recommends the use of contract lawyers in development teams. A well-drafted contract noticed to all community members could provide necessary legal protections and prevent, or at least dissuade, the use of tort law. While decentralized networks may never be purely decentralized, the amount of knowledge is publicly available, and developers already work with non-technical community members. Community members should have an affirmative duty to inform themselves of the network's current proposed updates and ask questions.

V. CONCLUSION

Hard forks are an inevitable part of cryptocurrency, as disagreements commonly occur between members of any community. The resulting forks need enough support from various community members in order to survive. Unlike physical currency, cryptocurrency needs to continually evolve to prevent hacking and maintain demand.

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[287] Steven Weber, *Patterns of Governance in Open Source*, *in* OPEN SOURCES 2.0 367-68 (2006).

[288] Peter Rizun, *Why you should resign from Bitcoin Unlimited*, MEDIUM (Mar. 27, 2019), http://medium.com/@peter_r/why-you-should-resign-from-bitcoin-unlimited-a5df1f7fe6b9.

[289] The cryptocurrency community considers Bitcoin's, Bitcoin Cash's, and Bitcoin SV's "constitution" to be Satoshi Nakamoto's Bitcoin White Paper. Nakamoto, *supra* note 13.

[290] Reyes, *supra* note 17.

[291] *See Id.* (examining cryptocurrency governance and possible protections for developers).

While antitrust claims may exist in the emerging field of public blockchain law, cryptocurrency antitrust claims are no different from regular antitrust claims. Antitrust claims cannot be a legitimate claim of action during a hard fork. Hard forks increase competition and provide additional wealth to holders who take proactive steps to obtain both the old and new coins. Claims of conversion, however, can never result from a hard fork, because no entity is taking dominion or control over another's property and the holder can increase the amount of coin assets.

While scholarship exists suggesting developers owe duties to the cryptocurrency community, developers are not providing contractual services like physicians or lawyers, which owe heightened levels of duty. Developers provide code, which is covered under copyright and intellectual property law. While developers choose to not maintain a copyright and allow for the free distribution of code through open-source, those same developers should not fall victim to lawsuits from entities or individuals who take and change their code, then allege negligence.

Poetry pays very little, if anything, and Robert Frost's poem lost its copyright status this year. Arguably, Robert Frost's poem has great value in American culture and in the philosophy of free will. The difference with cryptocurrency is that a person can easily see the current value at any time on an exchange. When money is at stake, emotions run high. However, attorneys need to maintain clear legal arguments and prevent frivolous lawsuits from hindering new and emerging fields.

While the average American consumer expects protection when it comes to money, that idea holds little value in cryptoeconomics. Rather than forcing a variety of differing regulations from every country, cryptocurrency and public blockchain networks should be regulated internally. Hard forks continue to be an internal regulation of cryptocurrency.