

BITCOIN: REACTING TO MONEY WITH NON-MONEY ATTRIBUTES

David Houck*

CITE AS: 1 GEO. L. TECH. REV. 371 (2017)

<https://perma.cc/2U7L-NJLM>

INTRODUCTION.....	371
STATUTORY BACKGROUND AND PROCEDURAL HISTORY.....	372
TECHNOLOGICAL HISTORY.....	374
Bitcoin.....	374
Silk Road.....	376
ANALYSIS.....	376
Bitcoin Constitutes Money	376
The Non-Monetary Attributes of Virtual Currencies Do Not Preclude Bitcoin’s Use as Money	381
THE FUTURE OF VIRTUAL CURRENCIES.....	385
CONCLUSION.....	387

INTRODUCTION

Since the release of Bitcoin in 2009, the cryptocurrency has grown in prominence and public acceptance.¹ By seemingly providing a layer of anonymity in transactions, Bitcoin has also become the public face of virtual currencies in illicit online dealings: Bitcoin has been associated with several high-profile criminal cases involving major drug website shutdowns, notably the Silk Road marketplace.² However, few cases have addressed how existing statutes and regulations should apply to this new technology. The foundations upon which Bitcoin is built were only made possible by modern technology. As such, Bitcoin defies traditional categorization: its effectiveness as a reliable method of buying and selling goods has led some to embrace it as a monetary device, while its novelty, decentralization, and volatility has left some courts hesitant to designate it as money.

* GLTR Staff Member; Georgetown Law, J.D. expected 2018; Duke University, B.S.E. 2012.

¹ See generally *Blockchain Wallet Users*, BLOCKCHAIN, <https://blockchain.info/charts/my-wallet-n-users> (last visited Mar. 21, 2017) [<https://perma.cc/GZ6S-FJVC>]; *Confirmed Transactions per Day*, BLOCKCHAIN, <https://blockchain.info/charts/n-transactions?timespan=all> (last visited Mar. 21, 2017) [<https://perma.cc/M4Z5-UZFY>].

² See *United States v. Faiella*, 39 F. Supp. 3d 544, 545 (S.D.N.Y. 2014).

This tension is visible in the different ways that courts and various agencies treat virtual currencies. For instance, the U.S. Securities and Exchange Commission (“SEC”) regulates Bitcoin as money in legal actions³ while Internal Revenue Service (“IRS”) official guidance designates it as property.⁴ FinCEN laid out guidelines in 2013, regulating “convertible virtual currencies” similar to money under to money transmission services, but noting key differences such as the ability to create currency.⁵ In *United States v. Faiella*, the Southern District of New York followed in the footsteps of *SEC v. Shavers*, determining that Bitcoin is money and applying federal money transmitting statutes accordingly⁶ while a Florida state court shied away from dubbing Bitcoin money, and instead have asked legislatures to redefine old statutes to better account for the new technology.⁷

This comment addresses why the court in *Faiella* was correct in determining that Bitcoin is money and applying legal standards of money to Bitcoin transactions. In doing so, the comment explores the function, purpose, and attributes of Bitcoin, compares those attributes to those of traditional money, and observes various standards applied by courts grappling with the new concepts introduced by Bitcoin and other virtual currencies. Finally, the comment observes the increasingly complex implications of virtual currencies, and discusses how courts and legislatures may need to react.

STATUTORY BACKGROUND AND PROCEDURAL HISTORY

Silk Road was an online marketplace that exclusively allowed users to anonymously buy and sell goods and services.⁸ Robert Faiella, known online as “BTCKing,” operated an exchange for buyers to anonymously purchase bitcoins and have them deposited into a Silk Road account.⁹ Faiella’s service

³ See *SEC v. Shavers*, 2013 WL 4028182 (E.D. Tex. Aug. 6, 2013).

⁴ I.R.S. Notice 2014-21 (Mar. 25, 2014), <https://www.irs.gov/pub/irs-drop/n-14-21.pdf> [<https://perma.cc/685D-J7NM>].

⁵ *Application of FinCEN’s Regulations to Persons Administering, Exchanging, or Using Virtual Currencies*, DEP’T OF TREASURY FIN. CRIMES ENFORCEMENT NETWORK (Mar. 18, 2013), <https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf> [<https://perma.cc/XR64-JEZH>].

⁶ *Faiella*, 39 F. Supp. 3d at 545; see 18 U.S.C. § 1960 (2012).

⁷ See, e.g., *Florida v. Espinoza*, Case No. F14-2923 (Fla. Cir. Ct. 2016).

⁸ See Jessica Roy, *Feds Raid Online Drug Market Silk Road*, TIME (Oct. 2, 2013), <http://nation.time.com/2013/10/02/alleged-silk-road-proprietor-ross-william-ulbricht-arrested-3-6m-in-bitcoin-seized/> [<https://perma.cc/JN36-X5GK>].

⁹ *Id.* at 546.

allowed buyers to deposit traditional currency into a bank account controlled by Faiella, and Faiella would then deposit a corresponding amount of Bitcoin directly into the user's Silk Road account.¹⁰

In 2013, the Federal Bureau of Investigation ("FBI") shut down Silk Road and prosecuted the prominent individuals associated with the website's operation.¹¹ Though Faiella was not associated with the operation of the site, his prominent role facilitating transactions by transforming USD into Bitcoin placed him in the crosshairs, and Faiella was indicted for conspiracy to commit money laundering and failing to properly license his business as a money transmitting service in violation of 18 U.S.C. § 1960, which forbids operating an "unlicensed money transmitting business."¹² This comment focuses on the charge of operating an unlicensed money transmitting business. Faiella asked the court to dismiss that charge on three grounds: first, that Bitcoin does not qualify as "money" or "funds;" second, operating a Bitcoin exchange did not constitute "transmitting" money; and third, that Faiella is not a "money transmitter" as defined in § 1960.¹³

The court explained that the legislative history of § 1960 shows it was intended to apply broadly to "nonbank financial institutions" that could "convert street currency into monetary instruments" used in drug and other illicit transactions by "any and all means."¹⁴ The court stressed that "any and all means" indicated that Congress intended prosecutors to read the statute broadly "to keep pace with . . . evolving threats."¹⁵ Using this language to emphasize that the statute is to be interpreted broadly, the court ultimately concludes that Bitcoin can be considered money and its use should be regulated under the money transmitter statute.¹⁶

¹⁰ *Id.*

¹¹ *See, e.g.,* United States v. Ulbricht, 31 F. Supp. 3d 540 (S.D.N.Y. 2014) (denying a motion to dismiss in the government's prosecution of Silk Road creator and operator).

¹² United States v. Faiella, 39 F. Supp. 3d 544, 545 (S.D.N.Y. 2014).

¹³ *Id.*

¹⁴ *Id.* at 545-46.

¹⁵ *Id.*

¹⁶ *Id.*

TECHNOLOGICAL HISTORY

Bitcoin

Bitcoin was first introduced through a whitepaper penned under the pseudonym Satoshi Nakamoto in 2008,¹⁷ and was subsequently launched in 2009.¹⁸ Bitcoin operates through blockchain technology,¹⁹ a distributed system for performing, validating, and recording transactions.²⁰ As set out in the Satoshi whitepaper, Bitcoin is meant to be a “purely peer-to-peer version of electronic cash [to] allow online payments to be sent directly from one party to another without going through a financial institution.”²¹ Since Bitcoin relies on non-reversible transactions permanently recorded in a public blockchain, users rely on the entire Bitcoin network to validate that each bitcoin is real and truly belongs to the buyer: that is, that the bitcoin was not already spent elsewhere.²²

The Bitcoin blockchain is similar to a public ledger that contains each and every transaction since the inception of Bitcoin. If the whole blockchain is a ledger, then each “block” in the chain is a page of transactions that have been verified together by the network. Once a block has been added to the blockchain, it is practically impossible to change.²³ Consequently, each

¹⁷ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN (Nov. 1, 2008), <https://bitcoin.org/bitcoin.pdf> [<https://perma.cc/89BZ-RMFE>].

¹⁸ Timothy B. Lee, *Five Years of Bitcoin in One Post*, WASH. POST, (Jan. 3, 2014), https://www.washingtonpost.com/news/the-switch/wp/2014/01/03/five-years-of-bitcoin-in-one-post/?utm_term=.d35d40a5ed85 [<https://perma.cc/8TH4-WYWY>].

¹⁹ Blockchain technology is a type of distributed ledger technology, which uses a distributed set of nodes, all running compatible software, that share and verify information based on pre-defined rules. Transactions and records are verified by the nodes and grouped into a “block,” which is connected to the block before it, creating a chain of blocks, or “blockchain.” Blockchain features vary widely based on how each system is designed and operated.

²⁰ The Bitcoin blockchain uses a permissionless distributed network to verify Bitcoin transaction based on agreed-upon principles. This blockchain stores every transaction in a publicly-available ledger, one block at a time. A Bitcoin block is a group of transactions that have been verified by the network and which a node of the network has encoded by finding a rare number based on hash technology. Each block is “chained” to the block before it, so that every verified transaction can be traced back to the inception of Bitcoin’s blockchain. *See generally* Nakamoto, *supra* note 17.

²¹ *Id.*

²² *Id.* at 2.

²³ If a single malicious actor controls more than 51% of the computing power of the blockchain, it may be able to approve false transactions at a faster rate than the rest of the network. *Id.* at 6-8. However, since the value of Bitcoin is based on trusting the network

bitcoin's history can be traced back to its creation. Buyers and sellers can rely on this chain of authentication to verify that the bitcoins they receive actually belong to the person claiming to own them, and have not been spent already. This mechanism allows bitcoin users to avoid third-party financial institutions, such as banks, since transactions are verified and approved by the blockchain network.²⁴ Instead, the computers running the Bitcoin software communicate with each other to verify that a transaction is valid according to agreed-upon criteria and to verify that the bitcoins in question still belong to the buyer.²⁵

Each bitcoin is located at an "address" that can be seen by anyone who looks at the blockchain.²⁶ In order to spend the bitcoin located at that address, the user must have a unique "private key."²⁷ Whomever has access to the private key may spend the bitcoins located at the corresponding address.²⁸

Finally, scarcity is a foundational aspect of Bitcoin. By design, there are an explicitly-defined finite number of bitcoins.²⁹ These bitcoins will be released at a predictable rate over the course of more than 100 years.³⁰ This slow, methodical release of bitcoins and a known cap on the total released

instead of trusting an individual, this would likely cause the value of Bitcoin to collapse and lead users to abandon the cryptocurrency.

²⁴ *Id.* at 1-3.

²⁵ *Bitcoin Developer Reference*, BITCOIN, www.bitcoin.org/en/developer-reference (last visited Apr. 1, 2017) [<https://perma.cc/6QCG-AB95>].

²⁶ The address is a hash of the user's public key. Asymmetric encryption systems generate keys in pairs: a public key and a private key. The public key can be accessed by anyone, while the private key should be kept secret only to the user. Any file encrypted with the public key may only be unencrypted by the corresponding private key. The Bitcoin blockchain takes advantage of this feature, allowing anyone to send bitcoins to an address (through the public key), but only allowing the user with the private key to spend the bitcoins at that address. This does mean that if you lose your private key, the bitcoins can never be spent, and if you if your private key is stolen, the thief may spend the bitcoins associated with that private key. *Id.* at 2.

²⁷ *Id.*

²⁸ Relevant to the court's discussion of whether Faiella was a transmitter, Silk Road held the private key to users' bitcoins and had authority to suspend or block the account owner from spending their bitcoins. *Faiella*, 39 F. Supp. 3d at 545 ("These were, in essence, transfers to a third-party agent, Silk Road, for Silk Road users did not have full control over the Bitcoins transferred into their accounts.").

²⁹ It is, in fact, possible for the cap to be raised through consensus of Bitcoin users, but this would reverse a founding principle of the Bitcoin community. While it is not possible to anticipate what may happen in the Bitcoin community over the next 100 years, this comment assumes that the cap will not be raised, and that scarcity will be maintained as currently defined in the Bitcoin system.

³⁰ *Frequently Asked Questions*, BITCOIN, <https://bitcoin.org/en/faq> (last visited Mar. 31, 2017) [<https://perma.cc/G2WF-5NAH>].

means that bitcoins will never “flood the market” and that, upon final release, inflation of bitcoins cannot occur.³¹ Accordingly, the value of Bitcoin is based on how users value the currency, and that value will be determined entirely by the users without the possibility of manipulation by an issuing authority

Silk Road

Silk Road was an online marketplace that used Bitcoin to allow users to purchase goods anonymously.³² Silk Road required users to deposit Bitcoin into their Silk Road accounts.³³ Silk Road maintained the account, and could restrict a user’s access to the bitcoins in the account.³⁴

ANALYSIS

To determine how Bitcoin should be treated from a regulatory standpoint, this comment first determines that the *Faiella* court acted correctly in defining Bitcoin as money. Second, the comment analyzes the unique non-money attributes of Bitcoin and other virtual currencies. Finally, the comment observes recent developments in the regulation of Bitcoin and potential trends for the future.

A. Bitcoin Constitutes Money

In determining that Bitcoin is money, the *Faiella* court spends a single paragraph defining money and just two sentences determining that Bitcoin qualifies as money under 18 U.S.C. § 1960.³⁵ The court dismisses the notion of any perceived ambiguities in its interpretation and ultimately determines that *Faiella* is a money transmitter.³⁶

Despite *Faiella*’s arguments to the contrary, the court properly identified Bitcoin as “money.” First, Bitcoin is intended to be used as money; second, Bitcoin qualifies as money under both legal definitions and plain

³¹ *Id.*

³² Joshua Bearman, *The Rise and Fall of Silk Road: Part I*, WIRED (May 2015), <https://www.wired.com/2015/04/silk-road-1/> [<https://perma.cc/G7ZY-Q4J3>].

³³ Chloe Albanesius, *What Was Silk Road and How Did It Work?*, PC MAG (Oct. 3, 2013, 12:55 PM), <http://www.pcmag.com/article2/0,2817,2425184,00.asp> [<https://perma.cc/XM5U-C9HF>].

³⁴ *Id.*

³⁵ *United States v. Faiella*, 39 F. Supp. 3d 544, 545 (S.D.N.Y. 2014).

³⁶ *Id.* at 545-47.

meaning definitions; finally, because Bitcoin shares so many characteristics in common with money, it would cause a regulatory gap if it were not recognized as money.

1. *Bitcoin is meant to be used as money*

Bitcoin's use as money is not a creative or unexpected offshoot of the technology or an improvised bartering tool:³⁷ Bitcoin is intended to be used to buy and sell goods and services, and Bitcoin is in fact used for that purpose. The first whitepaper released on the topic confirms this intended purpose: *Bitcoin: A Peer-to-Peer Electronic Cash System*.³⁸ Bitcoin is intended to be cash. Further, as the court notes in *Faiella*, "Bitcoin can be easily purchased in exchange for ordinary currency, acts as a denominator of value, and is used to conduct financial transactions."³⁹ This intent may not be relevant if Bitcoin did not contain the requisite qualities of money, but in determining whether an item represents money, intent does matter.⁴⁰ Its other attributes are designed specifically to circumvent trusted middlemen, governments, and banks,⁴¹ but at its core Bitcoin provides the end user with the ability to transact in a manner similar to fiat currencies.

2. *Bitcoin Qualifies as Money Under Both the Legal and Plain Meaning Definitions*

The acceptance of Bitcoin as a stored value that can be traded for goods and services fits the plain-English definition of money or funds, which the court identified as the appropriate definitions to be apply in this instance.⁴² Money is not defined in § 1960,⁴³ so both parties in *Faiella* offered definitions

³⁷ See, e.g. Rebecca Baird-Remba, *Why Criminals Can Trade Tide Detergent for Crack Cocaine*, BUS. INSIDER (Jan. 9, 2013, 1:27 PM), <http://www.businessinsider.com/the-tide-black-market-2013-1> [<https://perma.cc/CW4F-JEMY>] (discussing the theft of Tide Detergent and its use as currency in the drug market).

³⁸ Nakamoto, *supra* note 17, at 1.

³⁹ *Faiella*, 39 F. Supp. 3d at 545.

⁴⁰ See 18 U.S.C. § 486 (2012) (prohibiting the passage of coins "intended for use as current money").

⁴¹ Nakamoto, *supra* note 17, at 1.

⁴² *Faiella*, 39 F. Supp. 3d at 545 (rejecting both parties' use of Black's Law Dictionary to define the terms "money" and "funds," stating that each "are ordinary English words and should be given their ordinary meanings").

⁴³ 18 U.S.C. § 1960.

from Black's Law Dictionary.⁴⁴ Faiella suggested defining money as "[a]ssets that can be easily converted into cash" and "[t]he medium of exchange authorized or adopted by a government as part of its currency; esp. domestic currency."⁴⁵ Faiella argued that, if allowed to apply to Bitcoin, this statute could apply to "any asset with liquidity," and would render the statute meaningless.⁴⁶ The government notes, however, that the definition of money transmitting "speaks of transferring not 'cash' or 'currency,' but 'funds.'"⁴⁷ The government then looked to both Black's Law Dictionary and the Oxford English Dictionary, defining funds as "money at a person's disposal; pecuniary resources."⁴⁸

Regardless, the *Faiella* court stated that legal definitions "would only be relevant if Congress intended that these terms be given special meanings as legal 'terms of art,'" and instead applies the ordinary meanings of the words money and funds.⁴⁹ The court defined money as "something generally accepted as a medium of exchange, a measure of value, or a means of payment," and defined funds as "available money."⁵⁰ The court then identifies attributes of Bitcoin that fit each of the three qualifiers in the ordinary definition of money: for medium of exchange, Bitcoin "can easily be purchased in exchange for ordinary currency;" for a measure of value, Bitcoin "acts as a denominator of value;" and for a means of payment, Bitcoin "is used to conduct financial transactions."⁵¹ The court in *SEC v. Shavers* similarly interpreted Bitcoin to be money because of its ease of use in typical transactions and because it can easily be exchanged for typical currencies.⁵²

⁴⁴ Memorandum of Law in Support of Defendant Robert Faiella's Motion to Dismiss Count One of the Indictment at 3-4, *United States v. Faiella*, 39 F. Supp. 3d 544 (S.D.N.Y. 2014) (No. 14 Crim. 243) (Motion to Dismiss); Memorandum of Law in Opposition to Defendant's Motion to Dismiss Count One of the Indictment at 3-4, 39 F. Supp. 3d 544 (S.D.N.Y. 2014) (No. 14 Crim. 243) (Opposition Memorandum).

⁴⁵ Motion to Dismiss, *supra* note 44, at 3-4 (citing BLACK'S LAW DICTIONARY (9th ed. 2009)).

⁴⁶ *Id.* at 4.

⁴⁷ Opposition Memorandum, *supra* note 44, at 10.

⁴⁸ Opposition Memorandum, *supra* note 44, at 8.

⁴⁹ *United States v. Faiella*, 39 F. Supp. 3d 544, 545 n.2 (S.D.N.Y. 2014).

⁵⁰ *Id.* at 545; *see also Funds*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/funds> (last visited Mar. 19, 2017) [<https://perma.cc/PH8R-CMSR>] (updating the definition of funds to mean "available pecuniary resources," and defining pecuniary resources as "of or relating to money").

⁵¹ *Faiella*, 39 F. Supp. 3d at 545.

⁵² *Sec. & Exch. Comm'n v. Shavers*, 2013 WL 4028182, at *2 (E.D. Tex. Aug. 6, 2013).

While the court's cursory round of fitting square pegs into square holes adequately dispenses Faiella's argument, it leaves unaddressed the root of Faiella's confusion. Dictionary definitions seem to demonstrate a circularity in the definition of money, cash, currency, and funds: each refers to the others, and all roads lead back to the elusive "medium of exchange."⁵³ Most differences between the definitions can boil down to *when* the money is available⁵⁴ and *where* the money is used.⁵⁵

The difficulty arises from the ubiquity of government-issued money; most have likely never used any other medium of exchange, and for good reason. Until recently, society did not have the ability to create a unique medium of exchange that did not have a secondary purpose other than its purpose as money, or the creation of such a token was illegal. In the United

⁵³ See *Money*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/money> (last visited Apr. 1, 2017) [<https://perma.cc/3QLH-UQZJ>] (defining money as "something generally accepted as a medium of exchange, a measure of value, or a means of payment: such as . . . officially coined or stamped metal currency"); *Currency*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/currency> (last visited Apr. 1, 2017) [<https://perma.cc/56NU-SZZU>] (defining currency as "circulation as a medium of exchange" or "something . . . that is in circulation as a medium of exchange"); *Funds*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/funds> (last visited Apr. 1, 2017) [<https://perma.cc/PH8R-CMSR>] (defining funds as "available pecuniary resources"); *Pecuniary*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/pecuniary> (last visited Apr. 1, 2017) [<https://perma.cc/7SN9-WKH7>] (defining pecuniary as "consisting of or measured in money" or "of or relating to money"); *Cash*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/cash> (last visited Apr. 1, 2017) [<https://perma.cc/D98E-Z8KS>] (defining cash as "ready money" or "money or its equivalent (as a check) paid for goods or services at the time of purchase or delivery"); see also *Barter*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/barter> (last visited Apr. 1, 2017) [<https://perma.cc/R4M2-N4UZ>] (defining barter as "to trade by exchanging one commodity for another"); *Commodity*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/commodity> (last visited Apr. 1, 2017) [<https://perma.cc/9K65-BHG4>] (defining commodity as "something useful or valued").

⁵⁴ See *Funds*, *supra* note 53 (specifying that the resource must be *available*); *Cash*, *supra* note 53 (specifying that the resource must be *ready* at the time of purchase).

⁵⁵ For instance, currency that must be accepted in one country but cannot be accepted in another. See *Legal Tender*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/legal%20tender> (last visited Apr. 1, 2017) [<https://perma.cc/4LT6-7BNN>] (defining legal tender as "money that is legally valid for the payment of debts and that must be accepted for that purpose when offered").

States, for instance, only the federal government may coin money, and other easily-identifiable physical representations of money are strictly regulated.⁵⁶

So why not call Bitcoin a commodity, as Faiella suggests?⁵⁷ Bitcoin's lack of useful physical form may be the distinction that sets it apart. A bilateral exchange of goods that does not include money is bartering. Bitcoin, in its purest form, is merely a public piece of information that everyone can see. The bitcoin's value derives from the fact that everyone can see it, and therefore trust that it has not been transferred, and someone can transfer it. If you have the key to transfer the information, then you can access its value. If the key for a given bitcoin is lost, that bitcoin becomes valueless, destined to sit in its assigned address until the blockchain ceases to exist. By common definition, commodities have value in trade.⁵⁸ While the U.S. Commodity Futures Trading Commission (CFTC) classified Bitcoin as a commodity in 2015 to bring it under the purview of the Commodity Exchange Act (CEA),⁵⁹ its definition of commodity is extraordinarily expansive and designed to give wide regulatory authority over futures markets.⁶⁰ This classification should be viewed as a need to regulate the space, which the author agrees is necessary, rather than an identification of virtual currencies as commodities as historically understood.⁶¹ Without physical form, if a bitcoin ceases to be

⁵⁶ U.S. CONST. art I, § 8 (“Congress shall have the power to . . . coin money, regulate the value thereof” and “provide for the punishment of counterfeiting the securities and current coin of the United States”); *see also* 18 U.S.C. Ch. 25 (2012) (criminalizing counterfeiting and forgery of United States currency).

⁵⁷ Memorandum of Law in Support, *supra* note 44, at 1 (“Bitcoin is a privately created commodity, acquired—or ‘mined’—by solving mathematical problems generated by a software algorithm.”).

⁵⁸ *See Commodity*, MERRIAM-WEBSTER ONLINE, <https://www.merriam-webster.com/dictionary/commodity> (last visited Apr. 1, 2017) [<https://perma.cc/9K65-BHG4>] (defining legal tender as “an economic good” or “something useful or valued”).

⁵⁹ Press Release, Commodity Futures Trading Comm’n, CFTC Orders Bitcoin Options Trading Platform Operator and its CEO to Cease Illegally Offering Bitcoin Options and to Cease Operating a Facility for Trading or Processing of Swaps without Registering (Sep. 17, 2015), <http://www.cftc.gov/PressRoom/PressReleases/pr7231-15> [<https://perma.cc/F7KW-PXNF>].

⁶⁰ 7 U.S.C. § 1(a)(9) (2012) (“The term “commodity” means wheat, cotton, rice, . . . cottonseed, . . . and all other goods and articles . . . and all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.”).

⁶¹ Further, as discussed *infra* The Future of Virtual Currencies, Bitcoin and other virtual currencies may be used to represent commodities or contracts which would typically fall under CFTC purview and which would potentially evade CFTC jurisdiction if not for the reclassification.

transferrable, it ceases to have value. Because of this lack of any secondary value, Bitcoin is not a commodity.

B. The Non-Monetary Attributes of Virtual Currencies Do Not Preclude Bitcoin's Use as Money

The technology upon which Bitcoin is built gives it novel characteristics that are distinct from our historic conception of money. A few examples include the method of transaction validation, the ability to attach new information to a bitcoin on the Bitcoin blockchain, and the ability to change Bitcoin properties with proper consensus on the network. These features, and others, inexorably complicate the treatment of Bitcoin and other virtual currencies, but do not supersede Bitcoin's qualification as money.

1. *Virtual currencies may appear or change suddenly*

Virtual currencies can spring suddenly into existence. The features and attributes of these currencies will vary, but anyone with sufficient knowledge can write a program to create a virtual currency—the difficult part is establishing a community to use that virtual currency. So, while a worthless virtual currency may appear suddenly, it is more interesting to observe what happens when an established virtual currency undergoes a drastic change, potentially resulting in a new virtual currency. In the two major instances of virtual currency splits, one which occurred and one which may soon occur, the scenarios are quite different but each enlightening.

Bitcoin nodes need not run the same software, but must apply the same validation rules, decided by consensus, for their transactions to be accepted by the other nodes.⁶² The Bitcoin community changes the consensus rules by adopting new software but continuing to accept the previous consensus rules until a sufficient portion of the network is running one software.⁶³ Once a pre-defined sufficient percentage of users is running the new software, all those nodes switch to the new consensus rules.⁶⁴ Any node that tried to implement the new software features before the switch would have been rejected by the

⁶² *Bitcoin Developer Guide*, BITCOIN, <https://bitcoin.org/en/developer-guide#consensus-rule-changes> (last visited Apr. 1, 2017) [<https://perma.cc/H8V4-RRXW>].

⁶³ *Id.*

⁶⁴ *See id.*; see also Gavin Andresen, *Blockchain Rule Update Process*, GITHUBGIST, <https://gist.github.com/gavinandresen/2355445> (last visited Apr. 1, 2017) [<https://perma.cc/9X2H-P8PX>].

network as invalid; this protects the network from changes until there is significant acceptance.⁶⁵ Any node that tries to use the old protocol after the switch is likewise rejected as invalid; this forces any hesitant adopters to update to the new protocol once it is active.⁶⁶

If two competing protocols are introduced, but neither receives buy-in sufficient to trigger the protocol change, the problem remains unsolved and factions may become restless. As of March 2017, Bitcoin is facing this existential crisis:⁶⁷ multiple solutions were introduced to solve the mempool problem, a growing issue involving a backlog of unrecorded transactions, but no single solution has been popular enough to trigger a switch.⁶⁸ Unexpectedly, or perhaps unavoidably, one community seems staunch enough and large enough to begin operating their own software, Bitcoin Unlimited (BTU), in opposition to the primary, Bitcoin Core (BTC).⁶⁹ This would result in a “hard fork” in the Bitcoin blockchain: two incompatible software programs working from the same original blockchain base. Historic Bitcoin transactions would not be affected, but each new program, BTU and BTC, would build separate blockchains that stem from the same base.⁷⁰ Each program will thus represent an entirely different virtual currency.

All transactions before the hard fork are respected as valid by both programs. After the hard fork, BTC nodes only acknowledge BTC and BTU nodes only acknowledge BTU. Critically, neither blockchain can merge back into the other. The hard fork presents two questions: first, which fork is legitimate; and second, would this sudden change preclude either from being considered money?

Which fork is legitimate? Both. Each is a completely unique virtual currency, and each will be valued according to its users’ perception of its value. So long as someone is running the software to validate and record the transactions, the virtual currency is a valid virtual currency. If that virtual

⁶⁵ *Bitcoin Developer Guide*, *supra* note 62.

⁶⁶ *Id.*

⁶⁷ *Block Size Limit Controversy*, BITCOIN WIKI, https://en.bitcoin.it/wiki/Block_size_limit_controversy (last visited Mar. 21, 2017) [<https://perma.cc/KUK2-93RP>].

⁶⁸ Ofir Beigel, *Segwit vs. Bitcoin Unlimited and Bitcoin’s Fork Explained Simply*, 99 BITCOINS (Mar. 27, 2017), <https://99bitcoins.com/bitcoin-fork-segwit-vs-bitcoin-unlimited-explained-simply/> [<https://perma.cc/6ZTG-Y22N>].

⁶⁹ *Id.*

⁷⁰ Hence the term “hard fork.” Fork because the single base blockchain supports two incompatible blockchains, and hard because there is no possibility of those blockchains merging back into one another.

currency can be accepted as a medium of exchange, then it is money. The value may shift significantly based on widespread usage, which is heavily dependent upon whether Bitcoin exchanges will accept the virtual currency: that is, whether BTU holders will be able to exchange it for traditional currency. Virtual currency exchanges have indicated that they will accept both BTU and BTC.⁷¹

Does the ability to suddenly split into two distinct virtual currencies preclude Bitcoin from being considered money? If virtual currencies are money at all, then the answer to this question must be no. First, as established, anyone can develop a virtual currency and release it at any time; the important and difficult feature of money is having a society that is willing to trust that currency as a medium of exchange. Thus, since such a split is akin to a new virtual currency developing with a built-in trusted user base, there is no reason to treat the ability to split as a critical failure. Second, if the split virtual currency continues to meet the definition of money established above, and would be recognized as money had it not split, there is no reason to categorically deny the qualification of money just because a split is possible. So long as users run the program to validate the transactions and users continue to use these virtual currencies as a medium of exchange, the virtual currencies will remain money.

The discussion of what happens after a hard fork is not entirely theoretical. In June 2016, the Ethereum Project's blockchain, Ethereum, was hacked and a substantial portion of its investment funds stolen.⁷² The Ethereum blockchain is significantly different from the Bitcoin blockchain, most notably here because it is maintained by a single entity, Ethereum Project. In response to the hack, Ethereum Project rolled back the blockchain to before the hack occurred, patched the vulnerability so that the hack could not happen, and operated the blockchain from that point forward, creating a fork of two universes: one where the hack did occur and one where the hack did not occur.⁷³ Some nodes disagreed with the decision to hard fork the blockchain, and decided to continue operating the old program, operating in

⁷¹ Stan Higgins, *Bitcoin Exchanges Unveil Hard Fork Contingency Plan*, COINDESK (Mar. 17, 2017), <http://www.coindesk.com/bitcoin-exchanges-unveil-emergency-hard-fork-contingency-plan/> [https://perma.cc/K7G7-R9JU].

⁷² Jonathan Ore, *How a \$64M hack changed the fate of Ethereum, Bitcoin's closest competitor*, CBC NEWS (Aug. 28, 2016), <http://www.cbc.ca/news/technology/ethereum-hack-blockchain-fork-bitcoin-1.3719009> [https://perma.cc/WL7P-6CL2].

⁷³ *Id.*

the blockchain where the hack had occurred.⁷⁴ These virtual currencies are now known as Ethereum (ETH) and Ethereum Classic (ETC).⁷⁵ Both are respected by major exchanges and both represent a medium of exchange, though ETH is worth significantly more.⁷⁶

2. *Bitcoin Encoding Property*

Unique features of Bitcoin have been exploited to create unanticipated results. For instance, some users have permanently encoded photographs, speeches, and even the original Satoshi whitepaper into the Bitcoin blockchain.⁷⁷ These actions require sending bitcoins to an unrecoverable address, essentially an address that no one knows the key to so that no one can ever move those bitcoins.⁷⁸ As discussed, losing the private key for an address renders the associated bitcoins valueless; visible but inaccessible until Bitcoin stops existing.

Another example of a unique feature is the “coloring” of bitcoins. Essentially, this process encodes onto a particular bitcoin extra information that represents real-world assets, such as stocks or bonds.⁷⁹ Transfer of these assets then uses the same process as a typical Bitcoin transaction and carries the same risks.⁸⁰ While the bitcoin represents these assets, it also retains its normal value in the Bitcoin marketplace, but presumably would not be used for that purpose since the assets would be much more valuable.⁸¹

Does the use of Bitcoin as a mechanism for representing non-money assets preclude Bitcoin from being money? This encoding is a completely new concept: until Bitcoin, pieces of money could not be used to represent

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ See, e.g., *Ethereum Classic Exchange*, POLONIEX, https://poloniex.com/exchange#btc_etc (last visited Mar. 31, 2017) [<https://perma.cc/6XWM-2N3D>] (listing Ethereum Classic at 2.75 USD and Ethereum at 49.20 USD at 7:08, Mar. 31, 2017).

⁷⁷ See Ken Shirriff, *Hidden surprises in the Bitcoin blockchain and how they are stored: Nelson Mandela, Wikileaks, photos, and Python software*, KEN SHIRRIFF'S BLOG (Feb. 2014), <http://www.righto.com/2014/02/ascii-bernanke-wikileaks-photographs.html> [<https://perma.cc/PE64-LLR9>].

⁷⁸ *Id.*

⁷⁹ See *FAQ*, COLORED COINS, <http://coloredcoins.org/faq/> (last visited Apr. 1, 2017) [<https://perma.cc/XE5U-N67Y>].

⁸⁰ See *id.*

⁸¹ Colored coins use Bitcoin “dust,” which are quantities of Bitcoin so small as to be essentially worthless. See *id.*

unrelated assets. One dollar represented one dollar, and short of writing a contract on the back of that dollar, which may potentially invalidate the dollar, there was no way to reliably embed information. Here, the colored bitcoin in question does retain its value as money, but has a much more significant value as a stock or bond. The most logical conclusion seems to be that the colored bitcoin still qualifies as money, but may be subject to non-money regulations related to the assets it represents.

This conclusion introduces a critical new concept: that of treating Bitcoin as money and simultaneously regulating its non-money characteristics. While the non-money characteristics may be more significant to a particular bitcoin than that bitcoin's value as money, its monetary value does not disappear. Abandoning the qualification of money for all of Bitcoin does not seem to make sense, and abandoning the qualification for a particular piece would open a quagmire of questions. For instance, at what ratio of money:non-money value should a colored bitcoin lose its qualification as money? Alternatively, if those values change over time, does that bitcoin once again qualify as money? What if the assets are still encoded but are no longer transferrable? Instead, legislators and regulators should adopt a regulatory approach with an appreciation for the innovation that these technologies invite, and a flexibility that provides for those unpredictable non-money characteristics. It is much more straightforward to treat all Bitcoin, colored or no, as money, and create a flexible framework that guides legal entities going forward.

THE FUTURE OF VIRTUAL CURRENCIES

The United States is collectively starting to see movement around virtual currency regulation. Though the federal agencies have differed in their approach to classification, most have felt the need to directly address virtual currencies. The SEC recently rejected an application to create a Bitcoin exchange-traded fund largely because of a lack of regulation in the Bitcoin space, perhaps signaling the need for more.⁸² The *Faiella* decision seems to encourage a trend that, with the exception of some state courts, recognizes the

⁸² Order Disapproving a Proposed Rule Change, as Modified by Amendments No. 1 and 2, to BZX Rule 14.11(e)(4), Commodity-Based Trust Shares, to List and Trade Shares Issued by the Winklevoss Bitcoin Trust, Exchange Act Release No. 34-80206 (Mar. 10, 2017).

importance of virtual currencies and identify them as money.⁸³ Now, state legislatures have begun directly addressing the issue.

New York, rushing to license Bitcoin firms in 2015,⁸⁴ received heavy criticism and quickly caused an “exodus” of small startups who could not afford the fees.⁸⁵ In 2016, North Carolina passed the North Carolina Money Transmitters Act, regulating virtual currencies under money transmitter laws and explicitly carving out exceptions for unique virtual currency considerations, such as Bitcoin miners.⁸⁶ In early 2017, New Hampshire, possibly in direct response to a bitcoin exchange leaving the state due to regulatory burdens,⁸⁷ is considering a bill that exempts virtual currencies from money transmitter laws.⁸⁸ It is not the first state to do so, as Hawaii faced a similar shuttering of digital currency exchanges,⁸⁹ and neither will likely be the last.

While states will inevitably take different approaches to virtual currency regulation, and some may misstep in the process, it is important for legislatures to directly address the advent of virtual currencies, even if they recognize and exempt from regulation. Though they may be classified as money, virtual currencies have enough unique, non-money characteristics that

⁸³ See generally *United States v. Faiella*, 39 F. Supp. 3d 544 (S.D.N.Y. 2014); accord *SEC v. Shavers*, 2013 WL 4028182 (E.D. Tex. Aug. 6, 2013); contra *Florida v. Espinoza*, Case No. F14-2923 (Fla. Cir. Ct. 2016).

⁸⁴ Michael J. Casey, *NY Financial Regulator Lawsky Releases Final BitLicense Rules for Bitcoin Firms*, WALL ST. J. (June 3, 2015), <https://www.wsj.com/articles/ny-financial-regulator-lawsky-releases-final-bitlicense-rules-for-bitcoin-firms-1433345396> [<https://perma.cc/V9AS-U7FB>].

⁸⁵ Daniel Roberts, *Behind the “exodus” of bitcoin startups from New York*, FORTUNE (Aug. 14, 2015), <http://fortune.com/2015/08/14/bitcoin-startups-leave-new-york-bitlicense/> [<https://perma.cc/W6W2-ST27>].

⁸⁶ North Carolina Money Transmitters Act, ch. 53, art. 16(B), §§ 53-208.41–53-208.64, N.C. Sess. Law 2016-81 (2016), <http://www.ncleg.net/Sessions/2015/Bills/House/PDF/H289v3.pdf> [<https://perma.cc/EQ79-LXYG>].

⁸⁷ David Brooks, *State’s bitcoin community gets rattled as cryptocurrency firm leaves N.H. due to regulation*, CONCORD MONITOR (Oct. 02, 2016), <http://www.concordmonitor.com/cryptocurrency-problem-4989137> [<https://perma.cc/9ZKH-9UC4>].

⁸⁸ H.R. 436, 165th Leg., 1st Sess. (N.H. 2017), <https://legiscan.com/NH/text/HB436/2017> [<https://perma.cc/8LUU-LRHJ>].

⁸⁹ Anna Hrushka, *Digital currency exchange Coinbase ceases operations in Hawaii*, BIZJOURNALS (Feb. 27, 2017), <http://www.bizjournals.com/pacific/news/2017/02/27/digital-currency-exchange-coinbase-ceases.html> [<https://perma.cc/B5DM-WZAU>] (discussing the departure of Coinbase from Hawaii and the Hawaii legislature’s creation of a digital currency working group in response).

they should be addressed head-on rather than shoehorned into existing statutes. Regardless of the steps taken afterward, a failure to classify virtual currencies, particularly Bitcoin, as money will lead to a regulatory gap that generates confusion in the long run.

CONCLUSION

The *Faiella* court was correct to determine that Bitcoin is money under 18 U.S.C. 1960, but this classification is just the tip of an iceberg. Virtual currencies' non-money characteristics present a new challenge that has not been faced before, and that the federal and state legislatures are struggling to tackle. The current patchwork of regulatory classifications may not be unwarranted, given the non-money aspects of virtual currencies that could potentially become more prominent than their use as money. Especially in the case of Bitcoin, however, these agencies may consider applying more flexible classifications to account for the unforeseen and unforeseeable developments of virtual currencies.

The development of the Bitcoin blockchain and the blockchains of other virtual currencies is happening rapidly and shows no signs of slowing. While anticipating how these developments will occur is impossible, recognizing that virtual currencies cannot fit into preexisting frameworks for money transmission is vital. A failure to account for the new categories of technology that virtual currencies have made possible will result in regulatory gaps and confusion between prosecutors, agencies, and courts. Uncertainty in the industry could stifle adoption and hinder investment, and with the amount of innovation that has already been exhibited on the Bitcoin blockchain alone, it is not unreasonable to predict that innovation will continue.