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NERDY MONEY: BITCOIN, THE PRIVATE DIGITAL CURRENCY, AND THE CASE AGAINST ITS REGULATION

*Nikolei M. Kaplanov**

I. INTRODUCTION

In 1601, Elizabeth I and her government devalued the Irish coin from nine ounces fine to three ounces fine of silver in order to finance the high cost of the Nine Years War in Ireland.¹ This unilateral move by the English government, combined with the failure to remove the old sterling from circulation, caused catastrophic problems throughout Ireland.² In addition to rapid inflation in common foodstuffs, Irish citizens would only accept the new coin at its reduced intrinsic value rather than its face value.³ Further, merchants refused to accept the devalued coin in commercial transactions, which led to a shortage of vital goods from England.⁴

While the Irish experience during the Nine Years War is

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¹ HANS S. PAWLISCH, SIR JOHN DAVIES AND THE CONQUEST OF IRELAND: A STUDY IN LEGAL IMPERIALISM 142–43 (1985). The Nine Years War is also referred to as Tyrone's Rebellion. See HIRAM MORGAN, TYRONE'S REBELLION: THE OUTBREAK OF THE NINE YEARS WAR IN TUDOR IRELAND 11 (1993).

² PAWLISCH, *supra* note 1, at 142.

³ *Id.*

⁴ *Id.*

just one example of a government's complete control over money in the marketplace, this practice has continued throughout much of history and persists even today.⁵ Even the United States experimented with privately issued currency for a number of years,⁶ but it ultimately legislated these private notes out of existence in favor of the "greenbacks,"⁷ which would later be controlled by the Federal Reserve System.⁸ While some have argued that governments should not have any control over the money supply,⁹ with the exception of some local alternative

⁵ See F.A. HAYEK, DENATIONALISATION OF MONEY – THE ARGUMENT REFINED: AN ANALYSIS OF THE THEORY AND PRACTICE OF CONCURRENT CURRENCIES 33–34 (3d ed. 1990) (discussing the propensity of governments to create inflation in the economy since the Archaic period in Greece until today); see also Christopher S. Rugaber, *China Currency Manipulation: Treasury Declines To Name China In Report*, THE HUFFINGTON POST (Dec. 27, 2011), http://www.huffingtonpost.com/2011/12/27/china-currency-manipulation_n_1171607.html. The Chinese government is a prime example of a government that "intervene[s] in foreign exchange markets to keep the value of the [Renminbi] artificially low and thus more competitive against other foreign currencies." C. Fred Bergsten, *The Need for A Robust Response to Chinese Currency Manipulation - Policy Options for the Obama Administration Including Countervailing Currency Intervention*, 10 J. INT'L BUS. & L. 269, 269 (2011).

⁶ While state chartered banks in existence during the operations of the First and Second Banks of the United States did issue private paper, the notes issued by the Banks of the United States were the predominant currency during the early years of the United States. LISSA L. BROOME & JERRY W. MARKHAM, REGULATION OF BANK FINANCIAL SERVICE ACTIVITIES: CASES AND MATERIALS 9–11 (4th ed. 2011). Following the revocation of the charter for the Second Bank of the United States in 1832, the number of state banks exploded. *Id.* at 14–15. By the Civil War era, America's currency consisted of roughly 1,600 different state-issued notes, each fluctuating in value. *Id.* at 15–16; see also 1–4 JAMES A. HAXBY, STANDARD CATALOG OF UNITED STATES OBSOLETE BANK NOTES 1782–1866 (1988) (containing a pictorial catalogue of state-issued currencies from the late eighteenth and early nineteenth centuries).

⁷ In 1864, Congress passed the National Bank Act, which established much of the modern national banking regulations. BROOME & MARKHAM, *supra* note 6, at 23. The National Bank Act also levied a two percent tax on state-bank-issued notes. *Id.* at 25. Since the tax failed to affect state-bank issuance, Congress raised the tax to ten percent, which led to the end of state-issued bank notes. *Id.*; see also *Veazie Bank v. Fenno*, 75 U.S. (8 Wall.) 533, 539–42 (1869) (discussing the steps Congress took to limit state banks and the constitutionality of Congress's actions).

⁸ BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, THE FEDERAL RESERVE SYSTEM: PURPOSE & FUNCTIONS 1 (9th ed. 2005); see also BROOME & MARKHAM, *supra* note 6, at 33.

⁹ See HAYEK, *supra* note 5, at 130 ("If we want free enterprise and a

currencies, people have not had any other choice.¹⁰

One of the reasons that government has maintained such a monopoly over currency is because there has never been an alternative that can offer the security of traditional money with the convenience of financial institutions that permit worldwide commerce.¹¹ This changed with the creation of bitcoin. Bitcoin is the world's first digital, private cryptocurrency exchanged over the Internet through the use of a peer-to-peer network.¹² Bitcoin has no intrinsic value, and there is no government, company, or independent organization upholding its value or monitoring its use.¹³ Instead, bitcoin relies on a peer-to-peer network to gain value through demand and maintains security through the program its users run on their personal machines.¹⁴

This Comment explores the lawfulness of using bitcoin, a privately-issued currency transacted on a peer-to-peer network, and the ability of the federal government to bar transactions between two willing parties. While there are no cases challenging the ability of parties in the United States to make transactions using bitcoins, there are policymakers who have denounced the use of bitcoin.¹⁵ This has led some to question whether the federal government has the ability under current federal law to prohibit the use of bitcoins among willing parties.¹⁶ This Comment will show that the federal government has no legal basis to prohibit bitcoin users from engaging in traditional consumer purchases and transfers. This Comment further argues that the federal government should refrain from passing any laws or regulations limiting the use of bitcoins. Should any claim arise, this Comment argues that there is a perfectly acceptable model with which to

market economy to survive...we have no choice but to replace the governmental currency monopoly and national currency systems by free competition . . .”).

¹⁰ See *infra* Part II.D.2 for a discussion on alternative currencies.

¹¹ See HAYEK, *supra* note 5, at 28–33 (discussing the evolution of governments' role in overseeing money).

¹² See *infra* Part II.A for a discussion of bitcoin's technical functionality and use as an alternative currency.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ See *infra* Part II.B for a discussion of Senator Charles Schumer's concerns with bitcoins.

¹⁶ See, e.g., Peter Cohan, *Can Bitcoin Survive? Is It Legal?*, FORBES (June 28, 2011), <http://www.forbes.com/sites/petercohan/2011/06/28/can-bitcoin-survive-is-it-legal/>.

analogize bitcoin use: community currencies.

Part II provides an overview of the bitcoin technology and the prospective law that could govern its use. In order to understand how federal law could affect bitcoin use, it is important to provide a detailed explanation of the technology that supports bitcoin transactions—especially since there has yet to be any comprehensive description in the legal field. Thus, Part II.A discusses bitcoin’s functionality and provides an explanation of the technology underlying the bitcoin network. Part II.B explains the argument proffered by United States Senator Charles Schumer and a case for the crackdown on bitcoins. Parts II.C and II.D introduce regulations that could be used to limit the use of bitcoins, including financial regulatory, contract, securities, and complementary currency laws.

Part III analyzes the potential sources of regulation and ultimately concludes that bitcoin use is not contemplated under United States law. In addition, Part III advocates that bitcoins should be treated as an unregulated community currency under the law, and should therefore receive full contractual authority without being bound by federal securities regulations. Part III.A considers the current law, where there exists an argument for regulation under banking, money transmission, electronic transfers, securities, and other provisions, but resolves that bitcoins fall outside of these regulations. Part III.B discusses existing statutory and case law that support the recognition of bitcoins as a legal medium of payment and provide a remedy for a breach of a contract involving bitcoins. Finally, Part III.C examines the practical and policy implications that arise when considering a government effort to curb the use of bitcoins. Part III.C conclusively refutes the notion of applying any sort of regulation to bitcoin use, arguing that it would be ineffective and contrary to the interest of the United States consumers.

II. OVERVIEW

A. What is Bitcoin & How is it Used?

In 1998, Wei Dai, a member of the Cypherpunks electronic mailing list,¹⁷ sought to avoid the need for an

¹⁷ See CYPHERPUNKS, <http://www.cypherpunks.to/> (last visited Mar. 31, 2012) (describing the Cypherpunks website as “a center for research and

intermediary in an electronic payment transaction by proposing the concept of an anonymous digital currency.¹⁸ In his article, Dai described a protocol in which “untraceable pseudonymous entities . . . [could] cooperate with each other more efficiently, by providing them with a medium of exchange and a method of enforcing contracts.”¹⁹ His idea was to create a currency where government involvement “is not temporarily destroyed but permanently forbidden and permanently unnecessary.”²⁰

In 2009, Satoshi Nakamoto²¹ effectuated Dai’s idea of an anonymous currency and developed bitcoin, the world’s first decentralized digital currency, based on his self-published paper *Bitcoin: A Peer-to-Peer Electronic Cash System*.²² Bitcoin is an online digital currency that relies on peer-to-peer technology for transaction management and distribution.²³ Unlike fiat currencies, whose value is derived through regulation or law and underwritten by the state,²⁴ bitcoins have no intrinsic value and their only real value is based on supply and demand—what people are willing to trade for them.²⁵

development of cypherpunk projects such as remailers, anonymous peer-to-peer services, secure network tunnels, mobile voice encryption, untraceable electronic cash, secure operating environments”).

¹⁸ See Wei Dai, *B-Money*, at ¶ 2 (1998), <http://weidai.com/bmoney.txt> (proposing a monetary protocol without the need for government or government-sponsored entities).

¹⁹ *Id.* at ¶ 13.

²⁰ *Id.* at ¶ 1.

²¹ The name Satoshi Nakamoto is most likely a pseudonym since his or her identity is unknown. Jon Radoff, *Bitcoin Mining: The Free Lottery*, JON RADOFF’S INTERNET WONDERLAND (June 3, 2011), <http://radoff.com/blog/2011/06/03/bitcoin-mining-free-legalized-lottery>. Some have suggested that Nakamoto may not be a single person but instead a group of people. See Benjamin Wallace, *The Rise and Fall of Bitcoin*, WIRED (Nov. 23, 2011, 2:52 PM), http://www.wired.com/magazine/2011/11/mf_bitcoin/all/1 (indicating that Nakamoto may be a team at Google or the National Security Agency).

²² Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2009), available at <http://www.bitcoin.org/bitcoin.pdf>.

²³ BITCOIN, <http://bitcoin.org> (last visited Mar. 31, 2012).

²⁴ J.P., *Virtual Currency: Bits and Bob*, THE ECONOMIST (Jun 13, 2011, 8:30 PM), <http://www.economist.com/blogs/babbage/2011/06/virtual-currency>.

²⁵ BITCOIN, *Myths* (July 6, 2011, 2:32 PM), <https://en.bitcoin.it/wiki/Myths>. Though some believe that the value of Bitcoins is based on the energy costs to mine them, this is false. *Id.*

1. How Bitcoin Works

Bitcoins are computer files, similar to an mp3 or a text file and can be destroyed or lost just like cash.²⁶ They are stored either on a personal computer or entrusted to an online service.²⁷ Since the coins are simple files stored on a computer, spending them is as easy as sending an e-mail over the Internet.²⁸ In order to spend and accept bitcoins, all transactions must be logged on a public ledger.²⁹ This public ledger is a decentralized network operated and maintained by thousands of home computers—similar to a peer-to-peer music-sharing network—rather than a central server.³⁰ Once the transaction has been cleared by another bitcoin user on the network, the transaction is complete, and the bitcoins have transferred from one user to another.³¹

The bitcoin technology ensures that online transactions are: (1) secure; (2) efficient; and (3) free of third party presence—whether that third party is a government, bank, payment network, or clearinghouse. Security is accomplished through “cryptographic proof,” which allows parties to the transaction to deal directly with one another without a third party authorizing the transaction.³² Theoretically, this would create two problems. First, there may be an issue maintaining the privacy of the payor and payee. Second, it may be difficult to prevent the same user from double spending the same digital coins by copying them.³³ To overcome these issues, bitcoin relies on the use of public-key encryption to secure the parties’ privacy³⁴ and a widely-published “peer-to-peer distributed timestamp server” to verify that the

²⁶ Ogashi Tukafoto, *Bitcoin Mining for Fun and Net Loss*, SLACKTORY (Aug. 4, 2011, 10:00 AM), <http://slacktory.com/2011/08/bitcoin-mining-fun-loss/>. Like a computer file, bitcoins can also be copied, but as this Comment will explain, they can only be spent once. See *infra* Part II.A.1.

²⁷ Tukafoto, *supra* note 26.

²⁸ See Rick Falkvinge, *Why I'm Putting All My Savings Into Bitcoin*, FALKVINGE.NET (May 29, 2011), <http://falkvinge.net/2011/05/29/why-im-putting-all-my-savings-into-bitcoin/> (describing the process of sending money to a friend in New Zealand via the bitcoin network).

²⁹ Barrett Sheridan, *Bitcoins: Currency of the Geeks*, BLOOMBERG BUSINESSWEEK (June 16, 2011, 5:00 PM), http://www.businessweek.com/magazine/content/11_26/b4234041554873.htm.

³⁰ *Id.*

³¹ *Id.*

³² Nakamoto, *supra* note 22, at 1.

³³ J.P., *supra* note 24.

³⁴ *Id.*

digital coins have not been double spent.³⁵

To secure transactions, bitcoin relies on a technique that is widely used in other online transactions: public-key encryption.³⁶ The encryption generates two mathematically-related keys. One key is retained by the payee—somewhat like a private password or pin—while the other key is made public³⁷—like the name of a bank or an account location where the funds reside. The public key is used to receive payments, and the funds can only be accessed through the use of the associated private key.³⁸ At the same time, the payor uses her own private key to approve the payment to the recipient's account.³⁹ Essentially, the public key is like an e-mail address—public and available to everyone—while the private key is like the password needed to authorize messages (in this case bitcoins) to go in and out. Together, the system then broadcasts all of the transactions associated with each public key to the whole bitcoin community.⁴⁰ Faking bitcoin's public record would be very difficult as it requires more computing power than the rest of the bitcoin network combined—a nearly impossible feature that ensures the currency's security.⁴¹

While a public-key encryption system is effective in ensuring privacy, it is not useful in preventing coins from being spent more than once.⁴² In traditional payment systems, this

³⁵ Nakamoto, *supra* note 22, at 2–3. Double spending is the occurrence where the same coin has been used more than once, essentially counterfeiting by copying the files and respending them. See Gennady Medvinsky & Clifford Neuman, *NetCash: A Design for Practical Electronic Currency on the Internet*, 1 ACM Conference on Computer and Communications Security 102, 102 (1993), available at http://dl.acm.org/ft_gateway.cfm?id=168601&type=pdf&CFID=66767426&CF_TOKEN=68868096t (describing “double spending” as the copying and reuse of electronic cash).

³⁶ J.P., *supra* note 24.

³⁷ *Id.* To create a bitcoin account, users only need to install the bitcoin software, and the program automatically downloads. See *Getting Started*, BITCOIN, https://en.bitcoin.it/wiki/Getting_started (last visited Mar. 31, 2012).

³⁸ J.P., *supra* note 24.

³⁹ *Id.*

⁴⁰ Nakamoto, *supra* note 22, at 6. This process is similar to systems used on stock exchanges that allow the public to know the time and size of the transaction without disclosing the identity of the parties themselves. *Id.*

⁴¹ Jacob Aron, *Bitcoin Online Currency Gets New Job in Web Security*, NEWSIDENTIST (Jan. 17, 2012), <http://www.newscientist.com/article/mg21328476.500-bitcoin-online-currency-gets-new-job-in-web-security.html>.

⁴² J.P., *supra* note 24.

problem is overcome by relying on a central authority to check each transaction or by issuing a serial number to prevent double spending.⁴³ Because a central authority is antithetical to the basic principles of the technology,⁴⁴ bitcoin relies on other means to prevent double spending, including a timestamp server and a block chain to sequence all of the transaction records.⁴⁵

A timestamp records the exact time of a transaction and can come in two forms—the creation of currency or a transaction between two parties.⁴⁶ This complete record of all transactions is called a “block chain, which is a sequence of records called blocks.”⁴⁷ Every computer on the bitcoin network has a copy of the entire block chain, back to the very first transaction, and this information is updated by passing new blocks to other users on the network.⁴⁸ Further, each block must meet certain requirements as it passes along the network, making it very difficult to generate a valid block in order to fraudulently obtain bitcoins.⁴⁹ Essentially, each transaction can be thought of as a sentence in a book. Then each block is like a chapter of that book—a catalogue of a sequence of transactions. Each chapter is

⁴³ Nakamoto, *supra* note 22, at 2.

⁴⁴ BITCOIN, <http://bitcoin.org> (last visited Mar. 31, 2012) (explaining that “[b]itcoin uses peer-to-peer technology to operate with no central authority: managing transactions and issuing money are carried out collectively by the network.”).

⁴⁵ J.P., *supra* note 24; *see also* *How Bitcoin Works*, BITCOIN, https://en.bitcoin.it/wiki/How_bitcoin_works (last visited Mar. 31, 2012). A timestamp server is a network process used to prove that a specific piece of data—in the case of bitcoins, the actual coins themselves—actually existed at a certain time in order to create a chronological order of data movement. *See* Nakamoto, *supra* note 22, at 2 (describing the bitcoin timestamp server).

⁴⁶ J.P., *supra* note 24.

⁴⁷ *How Bitcoin Works*, BITCOIN, https://en.bitcoin.it/wiki/How_bitcoin_works (last visited Mar. 31, 2012). *See* *Block Chain*, BITCOIN, https://en.bitcoin.it/wiki/Block_chain (last visited Mar. 31, 2012) (explaining the concept of block and block chains).

⁴⁸ *How Bitcoin Works*, *supra* note 47.

⁴⁹ *Id.* Both the identification and integrity verification requirements for bitcoins are achieved through a cryptographic hash function. *Id.* This process takes a block of data (or bitcoin transaction files) and transforms it—in an effectively-impossible to reverse or to predict way—into a large integer. *Id.* This hash function prevents the creation of a block of data identical to other bitcoin transaction files. *Id.* Even changing a block of data only slightly changes its hash unpredictably, thereby providing the necessary security. *Id.* Therefore, Bitcoin blocks do not require serial numbers since blocks, by their coding, can be identified by their hash. *Id.*

then combined into separate volumes, or block chains, with all of the volumes making up the publicly available ledger.

Through public-key encryption, the bitcoin system is able to maintain a secure payment system without the need for a third party. Thus, bitcoin users are provided with anonymity in their transactions, while still being publicly assured that their transaction network is secure and functioning.

2. Bitcoin Distribution

Bitcoins are distributed into the market through the use of software.⁵⁰ This software tracks blocks and adds them to a chain.⁵¹ But this process is difficult and laborious.⁵² Software users who take the time to compute these activities and produce a block—a process called bitcoin mining—are rewarded with bitcoins.⁵³ Essentially, the value to the person who obtains bitcoins through mining is the value of his or her hardware needed to conduct the mining process plus the amount of time and energy spent.

a. Mining

Bitcoin mining—termed from the software used to create a block called Bitcoin miner—is designed to mimic the extraction of minerals.⁵⁴ Anyone is able to obtain bitcoins without purchasing them from other users by downloading and running bitcoin’s mining program.⁵⁵ Thousands of personal computers

⁵⁰ Simon Dingle, *Easy Money?: Virtual Currency, You Say? Made On the Internet? Get Real...*, IT WEB BRAINSTORM (Sep. 8, 2011), http://www.brainstormmag.co.za/index.php?option=com_content&view=article&id=4329:easy-money&catid=83:trends&Itemid=124.

⁵¹ *Id.*; see also *supra* notes 44–49 and accompanying text for a discussion on the use of blocks and block chains that support the transmission of bitcoins.

⁵² See Reuben Grinberg, *Bitcoin: Today Techies, Tomorrow the World?* MILKEN INST. REV., Quarter 1 2012, at 22, 25 (describing bitcoin mining as “an extraordinarily difficult puzzle”).

⁵³ J.P., *supra* note 24. The current reward is fifty bitcoins for every block produced; the value halves for every two hundred ten thousand blocks created. See also *How Bitcoin Works*, *supra* note 47.

⁵⁴ J.P., *supra* note 24.

⁵⁵ Andy Greenberg, *Crypto Currency*, FORBES, May 9, 2011, at 40 [hereinafter Greenberg, *Crypto Currency*]. The program, bitcoin miner, was developed by Nakamoto as part of the bitcoin technology since the mining program acts as the clearinghouse of all bitcoin transactions. J.P., *supra* note

currently compute the bitcoin encryption function, and the system awards bitcoins to whichever miner happens to compute the proper block chain.⁵⁶ Since there is no central company managing the process, bitcoin miners are essentially volunteering their machines to the bitcoin network to solve multiple math problems.⁵⁷ The computer that correctly deciphers the problem is rewarded in bitcoins, and the bitcoin system continues to operate.⁵⁸ Currently, someone using a personal computer is unlikely to mine bitcoins. This is because the software is such that the more people who look for bitcoins, the harder it is for any one person to find them.⁵⁹ Some bitcoin miners combine their computing power and collectively mine bitcoins through pooled mining.⁶⁰ Instead of one computer solving a math problem, the problem is broken down into smaller parts and solved by multiple computers. Any subsequent reward is shared by all of the computers that participated.⁶¹

The bitcoin system limits the total number of bitcoins in existence, allowing for bitcoin mining, the process for verifying

24.

⁵⁶ Greenberg, *Crypto Currency*, *supra* note 55, at 40. The current rate that the network awards a bitcoin award is once every ten minutes. *Id.*

⁵⁷ See Allan Harris & Corey Conley, *Will Bitcoin Kill the Dollar?*, NVATE (Nov. 23, 2011), <http://nvate.com/2177/will-bitcoin-kill-the-dollar/> (comparing the bitcoin mining process to “programs that allow users to volunteer their computer’s idle time to crunch on data for other organizations and people”). In addition to clearing payments on the bitcoin network, the decentralized mining network also inhibits any single entity from taking control of the bitcoin network and reversing payments. *Cf.* Seth Hanford, *Bitcoin Security Architecture: A Brief Overview*, CISCO BLOG (July 12, 2011, 2:23 PM), <http://blogs.cisco.com/security/bitcoin-security-architecture-a-brief-overview/> (explaining that an attacker would require fifty percent of the processing power to disrupt the bitcoin network, an unlikely event).

⁵⁸ Radoff, *supra* note 21.

⁵⁹ *The Tuesday Podcast: Bitcoin*, NPR PLANET MONEY (June 12, 2011), <http://www.npr.org/blogs/money/2011/07/13/137795648/the-tuesday-podcast-bitcoin>. The typical office computer would take roughly five to ten years of running nonstop to find any bitcoins and would end up costing more on electricity than received in the value of bitcoins. *Id.*

⁶⁰ See, e.g., BITCOIN CZ MINING, <http://mining.bitcoin.cz/> (last visited Mar. 31, 2012). In order to ensure a fair distribution in the pool, the awarded bitcoins are “divided among all of the users that contributed to that round, weighted by the number of shares that they earned.” *Id.*

⁶¹ *Pooled Mining*, BITCOIN, https://en.bitcoin.it/wiki/Pooled_mining (last visited Mar. 31, 2012).

every bitcoin transaction,⁶² where miners receive a reward for the creation of a block.⁶³ Currently, bitcoin miners receive 50 bitcoins as a reward for every block created, but over time the value of this reward will decrease by 50-percent with every 210,000 created.⁶⁴ This gradual decrease systematically limits the supply of bitcoins and removes any human intervention. This means that bitcoin is not “subject to the inflationary whim of whatever Federal Reserve chief decides to print more money.”⁶⁵ Bitcoin’s distribution software automatically slows production over time to ensure there will never be more than 21 million bitcoins in circulation,⁶⁶ which should occur around 2025.⁶⁷ Thus, by having an automatic process, there is no need for or risk of central bank or government intervention.⁶⁸

b. Bitcoin Exchanges

In addition to using mining software to obtain bitcoins, people may also obtain bitcoins from online exchanges. Bitcoin is currently traded on exchanges where the price of bitcoin floats against other currencies valued by demand.⁶⁹ Similar to

⁶² Barrett Sheridan, *Bitcoins: Currency of the Geeks: The Untraceable New Virtual Currency is Exploding in Usage, Notoriety, and Value*, BLOOMBERG BUSINESSWEEK (June 16, 2011, 5:00 PM), http://www.businessweek.com/magazine/content/11_26/b4234041554873.htm?campaign_id=rss_search.

⁶³ J.P., *supra* note 24.

⁶⁴ *Blocks*, BITCOIN, <https://en.bitcoin.it/wiki/Blocks> (last visited Mar. 31, 2012).

⁶⁵ Greenberg, *Crypto Currency*, *supra* note 55, at 40; *see also* DR, *The Future of Money (Hint: It's Virtual)*, USNEWS.COM (June 3, 2011), <http://money.usnews.com/money/blogs/my-money/2011/06/03/the-future-of-money-hint-its-virtual>.

⁶⁶ *Id.* Even after the twenty-first millionth bitcoin has been created, miners will still be enticed to create blocks since larger, more complex transactions require small transaction fees. These fees will be accumulated through the bitcoin software and rewarded to the miners who continue to create the block chains that maintain the bitcoin system. *FAQ*, BITCOIN, <https://en.bitcoin.it/wiki/FAQ> (last visited Mar. 31, 2012); *see also Transaction Fees*, BITCOIN, <https://en.bitcoin.it/wiki/FAQ> (last visited Mar. 31, 2012) (describing the manner and functionality of bitcoin transaction fees).

⁶⁷ Dingle, *supra* note 50. Other commentators note that bitcoin could plateau at the twenty-one million level as late as 2030. *See, e.g.*, J.P. *supra* note 24.

⁶⁸ Greenberg, *Crypto Currency*, *supra* note 55, at 40.

⁶⁹ Dan Lyons, *The Web's Secret Cash: A Novel Version of Money is*

traditional exchanges that allow individuals and businesses to exchange one currency for another, there are online exchanges where people can exchange popular national and transnational currencies (e.g., Great British Pound or the Euro) for bitcoins.⁷⁰ The largest exchange is Mt.Gox,⁷¹ but there exist others.⁷²

Although nearly all bitcoin exchanges allow for the purchase of bitcoins, the different exchanges operate in different ways and offer different services. For example, to purchase bitcoins on Mt.Gox, a user needs to add state-backed currency to her account.⁷³ Then the user can direct Mt.Gox to execute an exchange of deposited funds for bitcoins.⁷⁴ Other sites offer over-the-counter services matching registered sellers with buyers.⁷⁵ One exchange, Camp BX, allows users to make over-the-counter trades with other users online and also offers margin trading and short-selling features.⁷⁶ On each of these exchanges, users must enter into a service agreement that defines the rights of each party that attempts to limit liability for the exchange.⁷⁷

Sprouting Online, Letting People Shop In Complete Anonymity, NEWSWEEK, June 27, 2011, at 32.

⁷⁰ *The Tuesday Podcast: Bitcoin*, *supra* note 59.

⁷¹ MT.GOX, <https://mtgox.com/> (last visited Mar. 31, 2012).

⁷² See, e.g., CAMP BX, <https://campbx.com/main.php> (last visited Mar. 31, 2012); TRADEHILL, <https://www.tradehill.com> (last visited Mar. 31, 2012).

⁷³ *MtGox*, BITCOIN, <https://en.bitcoin.it/wiki/MtGox> (last visited Mar. 31, 2012).

⁷⁴ *Id.*

⁷⁵ See, e.g., *Using Bitcoin-OTC*, BITCOIN, http://wiki.bitcoin-otc.com/wiki/Using_bitcoin-otc (last visited Mar. 31, 2012) (explaining that bitcoin-otc is not an automatic system to match buyers and sellers).

⁷⁶ *Camp BX*, BITCOIN, https://en.bitcoin.it/wiki/Camp_BX (last visited Mar. 31, 2012). Camp BX is a U.S. company based in Atlanta Georgia. *Camp BX: Trusted Bitcoin Platform*, CAMP BX, <https://campbx.com/main.php> (last visited Mar. 31, 2012). Trading on margin occurs when a customer deposits “a sum of money, or its value in securities, . . . with a broker . . . [and the] broker buys stock for a customer’s margin account, [and] the broker lends to a customer the difference between the purchase price and the customer’s margin deposit, and a daily debit balance of an account evidences the amount of the loan. 12 C.J.S. *Brokers* § 130 (2011). Short selling is another form of credit extension where a broker sells a security that the customer has not delivered. 79A C.J.S. *Securities Regulation* § 134 (2011).

⁷⁷ See, e.g., *Camp BX: Trusted Bitcoin Trading Platform*, CAMP BX, <https://campbx.com/register.php> (last visited Mar. 31, 2012). For example, CampBX’s Terms of Use explain that a “[c]lient has no expectation of privacy” and may investigate any user’s activity to prevent potential hacks or if it notices potentially illegal activity. *Id.* Further, the terms explain that the

In addition to using online exchanges to obtain bitcoins, they can also be purchased directly. This is done by finding someone who is willing to exchange bitcoins for cash.⁷⁸ Websites, such as Bitcoin.local, provide contact information for buyers and sellers of bitcoins, thereby allowing individuals to connect and exchange bitcoins face-to-face.⁷⁹ Typically, the parties meet in person, the bitcoin owner transfers her bitcoins to the purchaser via the Internet, and the purchaser pays the agreed-upon amount of cash.⁸⁰

c. Accepting Bitcoins in the Market

Bitcoins can also be transferred to non-miners in exchange for goods and services. Currently, there are only a few dozen “real world” locations where bitcoins are accepted.⁸¹ However, there are hundreds, if not thousands, of online merchants that accept bitcoins for goods like computer software or clothing as well as services like graphic design, legal, and consulting services.⁸² The price of the goods or services is generally determined based on the bitcoin’s rate of exchange with another currency.⁸³ Approximately \$30,000 worth of bitcoins is exchanged each day, and the use of this currency is growing among a subculture of online users.⁸⁴ By providing goods or services in exchange for

“[c]lient bears the entire risk of loss.” *Id.*

⁷⁸ *The Tuesday Podcast: Bitcoin*, *supra* note 59.

⁷⁹ BITCOIN.LOCAL, <http://tradebitcoin.com/> (last visited Mar. 31, 2012).

⁸⁰ *Transaction Guide*, BITCOIN.LOCAL, <http://www.tradebitcoin.com/transactions> (last visited Mar. 31, 2012).

⁸¹ *Real World Shops*, BITCOIN, https://en.bitcoin.it/wiki/Real_world_shops (last visited Mar. 31, 2012). For a story on bitcoins, NPR’s Planet Money reporters used their recently acquired bitcoins to purchase a sandwich in a deli in Brooklyn, NY. *See The Tuesday Podcast: Bitcoin*, *supra* note 59.

⁸² *Trade*, BITCOIN, <https://en.bitcoin.it/wiki/Trade> (last visited Mar. 31, 2012). Examples of online merchants accepting bitcoins include BTC Buy which allows for the purchase of Amazon Gift cards, Doodle Bit which offers made-to-order illustrations, or BitcoinForFlowers.com which offers flower ordering services. *Id.*

⁸³ *See The Tuesday Podcast: Bitcoin*, *supra* note 59 (describing the purchase of bitcoins using an online exchange rate).

⁸⁴ Greenberg, *Crypto Currency*, *supra* note 55, at 40. While there are a number of merchants accepting payments in bitcoins, the standard of *caveat emptor* still applies for bitcoin transactions. The bitcoin site, which lists the participating online merchants, has a warning that provides: “Note: it still remains up to you to decide whether you trust the service provider or not.”

bitcoins rather than dollars or other currencies through a simple offeror-offeree contract, merchants and individuals can obtain bitcoins and spend them elsewhere.

d. Bitcoin Storage

Once a person has found a place to obtain bitcoins—either through mining, purchase, or an online exchange—there are two ways to store them: in an online wallet or on a personal computer.⁸⁵ Bitcoins are transferred online but, similar to cash, they need to be kept somewhere. One simple way to store them is by signing up for an online wallet through which transactions can be executed.⁸⁶ An online wallet allows bitcoin owners to store their bitcoins in an online account managed by a third party.⁸⁷ Entrusting a third party with bitcoins, however, means that the wallet operator could lose a person's bitcoins or a hacker could steal them.⁸⁸ Alternatively, users can store bitcoins on their computers in a personal digital wallet,⁸⁹ but they risk losing all of

Trade, BITCOIN, <https://en.bitcoin.it/wiki/Trade> (last visited Mar. 31, 2012).

⁸⁵ J.P., *supra* note 24.

⁸⁶ *Id.*

⁸⁷ *Browser-based Wallet*, BITCOIN, https://en.bitcoin.it/wiki/Browser-based_wallet (last visited May 30, 2012). Online wallet services offer the convenience of allowing users to access their bitcoins from anywhere in the world via the internet. *Id.*

⁸⁸ In the summer of 2011, the third largest bitcoin exchange, Bitomat, lost access to their wallet files, causing the exchange's stored bitcoins to become inaccessible. Kyt Dotson, *Third Largest Bitcoin Exchange Bitomat Lost Their Wallet, Over 17,000 Bitcoins Missing*, SILICONANGLE (Aug. 1, 2011), <http://siliconangle.com/blog/2011/08/01/third-largest-bitcoin-exchange-bitomat-lost-their-wallet-over-17000-bitcoins-missing/>. Earlier in June 2011, Mt. Gox, the largest bitcoin exchange site, was hacked by an unknown party allowing parties to steal more than \$500,000 worth of bitcoins, leading to a sharp decline in bitcoin prices. Wallace, *supra* note 21; *see also* Adrian Covert, *Bitcoin Price Tumbles After Massive Account Hack and Sell-Off on Trading Site Mt.Gox*, GIZMODO (June 20, 2011, 11:51 AM), <http://gizmodo.com/5813622/bitcoin-price-tumbles-after-massive-account-hack-and-sell-off-on-trading-site-mtgox>.

⁸⁹ J.P., *supra* note 24. Those who use online wallet services are relying on a third-party operator to store their bitcoins. Wallace, *supra* note 21. While intuitively this would seem to undermine one of the key principles of bitcoin, both the use of home storage or online wallets come with risks, which bitcoin owners must weigh in their bitcoin storage location decision. *Id.* (describing users who lost their bitcoins from their home computer and online wallet services).

their bitcoins if the computer is infected with a virus or suffers physical damage.⁹⁰

3. Bitcoin Uses

While bitcoins may be completely functional and secure, there is still one large unanswered question: why would anyone use them? There are numerous stable and well-established currencies that are accepted throughout the world. So why would anyone use a currency that is only accepted by a few merchants and whose value is subject to unpredictable fluctuation? There appear to be three main reasons people use bitcoins: (1) cost, (2) security, and (3) anonymity.⁹¹

One large motivation Satoshi Nakamoto had in creating bitcoin was to eliminate the third party, like a credit card network, in online transactions.⁹² By creating a two-party payment system for online transactions, the cost of the transaction is reduced, thereby nearly eliminating the added costs to the consumer.⁹³ Additionally, the functionality of bitcoins and the lack of a third party prevents the reversal of transactions, similar to a cash transaction.⁹⁴

The second major allure of bitcoins is their proven

⁹⁰ J.P., *supra* note 24; *see also, e.g.*, Wallace, *supra* note 21 (describing one early bitcoin adopter who nearly lost all of his bitcoins).

⁹¹ David Birch, *Bits In Pieces*, PROSPECT (July 20, 2011), <http://www.prospectmagazine.co.uk/2011/07/bitcoin-economist-new-york-times-currency-mining/>.

⁹² Nakamoto, *supra* note 22, at 1.

⁹³ Cf. Bill Zielke, *Why Credit Cards Are Not the Future of Online Payment*, MASHABLE BUSINESS (Mar. 2, 2011), <http://mashable.com/2011/03/02/credit-card-decline/> (arguing that online credit card transactions are “riddled with deficiencies” including the cost of accepting credit cards and the hidden fees which make online payments “prohibitively expensive”); M.S., *Interchange Fees: Use Your Credit Card More*, THE ECONOMIST (July 28, 2010, 2:32 PM), http://www.economist.com/blogs/democracyinamerica/2010/07/interchange_fees (arguing in favor of disaggregating credit card fees from consumer purchases as a cost-savings measure); *but see Benefits of Open Payment Systems and the Role of Interchange*, MASTERCARD WORLDWIDE (2008), *available at* <http://www.mastercard.com/us/company/en/docs/BENEFITS%20OF%20ELECTRONIC%20PAYMENTS%20-20US%20EDITION.pdf> (arguing that four-party payment networks like MasterCard and its interchange fees provide the best options for consumers and merchants).

⁹⁴ Birch, *supra* note 91; *see also* Nakamoto, *supra* note 22, at 1.

functionality and detachment from governments. Bitcoins are nearly impossible to forge⁹⁵ and can be taken and spent across national borders, but still easily transported (say, compared with gold bars) and there is no need for state backing.⁹⁶ Many people are attracted to a currency that does not involve a state actor and use bitcoins out of a distrust of government.⁹⁷

The third reason people are attracted to bitcoins is the anonymity they offer. While every transaction is publicly logged and available for all to see, the logged information only identifies the location of the bitcoins.⁹⁸ In other words, the information recorded is the digital address of the bitcoins and not the user or the user's account information. In a traditional online transaction, some account information about both the buyer and the seller needs to be exchanged in order to complete the transaction.⁹⁹ In a bitcoin transaction, parties transmit their online location and the amount to be paid to complete a transaction, similar to the exchange of cash.¹⁰⁰ While far less information is collected than in traditional online payments,¹⁰¹

⁹⁵ In 2011 Dan Kaminsky, a leading online-security researcher, tried to discover flaws in the bitcoin system and was rebuffed at every avenue. Joshua Davis, *The Crypto-Currency; Bitcoin and its Mysterious Inventor*, NEW YORKER, Oct. 10, 2011, at 62.

⁹⁶ Greenberg, *Crypto Currency*, *supra* note 55, at 40.

⁹⁷ Birch, *supra* note 91. These libertarian arguments are mostly "worried about the fact that the Fed has so much control over monetary policy" and that the Federal Reserve can decide to print more money, thus causing inflation. CNN Money, *Bitcoins as Currency*, YOUTUBE (July 18, 2011), <http://www.youtube.com/watch?v=e-3AYqjwGbM> (quoting Jason Tan of Wired Magazine). For others, the appeal of bitcoin is more of "an ideological argument" based on a belief that "the federal government should not have that kind of control over [an individual's] assets." *Id.*

⁹⁸ *Anonymity*, BITCOIN, <https://en.bitcoin.it/wiki/Anonymity> (last visited Mar. 31, 2012).

⁹⁹ Jerry Brito, *Online Cash Bitcoin Could Challenge Governments, Banks*, TIME TECHLAND (Apr. 16, 2011) [hereinafter Brito, *Online Cash*], <http://techland.time.com/2011/04/16/online-cash-bitcoin-could-challenge-governments/>. Normally, it is "necessary to have a trusted intermediary deduct the amount from the payor's account, and add it to the payee's." *Id.*

¹⁰⁰ *Id.*

¹⁰¹ See Ben Kerschberg, *Credit Card Transactions—How Safe Is Your Personal Information?*, FORBES (Mar. 30, 2011, 11:57 AM), <http://www.forbes.com/sites/benkerschberg/2011/03/30/credit-card-transactions-how-safe-is-your-personal-information/> (describing a California suit where merchants are collecting names and zip codes for credit card transactions).

bitcoin use may not actually be completely anonymous.¹⁰²

While bitcoins can be used to purchase anything from web services to alpaca socks,¹⁰³ they can also be used for a number of unique and sometimes nefarious purposes due to their anonymity. For instance, after Visa, MasterCard, Bank of America, and PayPal all stopped providing donations to WikiLeaks, the online publisher of confidential government and corporate documents, the site announced that it would accept donations of bitcoins.¹⁰⁴ Silk Road, an online black-market website, also takes advantage of bitcoin's anonymity to sell mail-order illegal drugs and weapons.¹⁰⁵ They made bitcoins the only form of payment on the website since other forms of payment, like PayPal or credit cards, can be traced or blocked.¹⁰⁶

In addition to the above-stated reasons for using bitcoins, the digital coins have also become very popular as an investment.¹⁰⁷ Despite the original purpose for bitcoins, many people have viewed bitcoins as a means to make money rather

¹⁰² See *infra* Part III.C.2 (discussing bitcoin's anonymity limitations).

¹⁰³ See, e.g., *Alpaca Products for Bitcoins*, GRASS HILL ALPACAS, <http://grasshillalpacas.com/alpacaproductsforbitcoinoffer.html> (last visited Mar. 31, 2012); *Anonymous Domain Registration and Web-Hosting with Bitcoins*, BITDOMAIN.BIZ, <http://www.bitdomain.biz/> (last visited Mar. 31, 2012).

¹⁰⁴ Andy Greenberg, *WikiLeaks Asks For Anonymous Bitcoin Donations*, FORBES (June 14, 2011, 8:01 PM) [hereinafter Greenberg, *WikiLeaks*], <http://www.forbes.com/sites/andygreenberg/2011/06/14/wikileaks-asks-for-anonymous-bitcoin-donations/>.

¹⁰⁵ Adrian Chen, *The Underground Website Where You Can Buy Any Drug Imaginable*, GAWKER (June 1, 2011, 1:14 PM) [hereinafter Chen, *Drugs*], <http://gawker.com/5805928/the-underground-website-where-you-can-buy-any-drug-imaginable>. Chen later exposed that in addition the online sale of drugs, Silk Road is also selling illegal firearms. See Adrian Chen, *Now You Can Buy Guns on the Online Underground Marketplace*, GAWKER (Jan. 27, 2012, 1:45 PM) [hereinafter Chen, *Guns*], <http://gawker.com/5879924/now-you-can-buy-guns-on-the-online-underground-marketplace>. Clearly, the acceptance of bitcoins by these nefarious groups indicates that bitcoins do in fact have value. See Davey Winder, *Paying for Your Crimes with Bitcoin*, PC PRO (Jan 27, 2012, 10:04 AM), <http://www.pcpro.co.uk/realworld/372409/paying-for-your-crimes-with-bitcoin/print> (explaining that "its lack of an audit trail makes Bitcoin the ideal currency for nefarious transactions"). Since Nakamoto has no part in the management of bitcoins, there is no official response to the use of bitcoins for illegal uses. See *supra* Part II.A.1.

¹⁰⁶ Chen, *Drugs*, *supra* note 105.

¹⁰⁷ James Surowiecki, *Cryptocurrency: The Bitcoin, A Virtual Medium of Exchange, Could Be A Real Alternative to Government-Issued Money—But Only If It Survives Hoarding by Speculators*, 114 TECH. REV. 106, 106 (2011).

than to use as money.¹⁰⁸ This is because the value of bitcoins has rapidly fluctuated in price.¹⁰⁹ Some commentators have argued that this fluctuation in value and the ability to exchange bitcoins for other currencies has led to hoarding and, actually harming the adoption of the currency.¹¹⁰ Regardless of this behavior, bitcoins are steadily becoming an established and recognized payment system as acceptance and use grows on both the merchant and consumer sides of the market.

B. Senator Schumer's Shots Against Bitcoins—Congress's Response?

Bitcoin is a relatively anonymous, untraceable payment system.¹¹¹ This means that there is no third party that can stop a payment or reverse a prior transaction.¹¹² This anonymity engenders online transactions for illegal activity for things as common as online poker,¹¹³ to the more serious sale of illicit drugs.¹¹⁴ Given the utility bitcoin offers criminals, there is little wonder that authorities and policymakers have taken notice.

¹⁰⁸ *Id.*

¹⁰⁹ *See id.* (illustrating the recent historical change in the value of bitcoins); *see also* Lyons, *supra* note 69, at 32 (detailing the price of a single bitcoin changing from its original price of “less than a dollar, but in recent months the price climbed to \$8, then to \$20, then above \$30, before falling back to \$18”). The drastic change in the price of bitcoin was mostly due to the demand resulting from speculation and an increase in public awareness. Wallace, *supra* note 21.

¹¹⁰ Surowiecki, *supra* note 108, at 106 (advocating for bitcoins not to be hoarded as the only means of facilitating its adoption as a currency); Paul Krugman, Opinion, *Golden Cyberfetter*, N.Y. TIMES, (Sep. 7, 2011, 12:20 AM), <http://krugman.blogs.nytimes.com/2011/09/07/golden-cyberfettters/> (arguing that the bitcoin system is and will be unsuccessful since it encourages people “to hoard the virtual currency rather than spending it” causing a decrease in the actual value of transactions).

¹¹¹ *See supra* Part II.A (discussing the attributes which make bitcoins anonymous and untraceable).

¹¹² *See* Annie Lowrey, *My Money Is Cooler Than Yours: Why the New Electronic Currency Bitcoin is a Favorite of Libertarian Hipsters and Criminals.*, SLATE (May 18, 2011), http://www.slate.com/articles/business/moneybox/2011/05/my_money_is_cooler_than_yours.single.html (explaining that bitcoin has no central server for government to subpoena or central company to “tell people what they can and cannot do” with their bitcoins).

¹¹³ *Id.*

¹¹⁴ *See* Chen, *Drugs*, *supra* note 105 (explaining how illegal drugs can be purchased with bitcoins on the Silk Road website).

Following a story posted on the online newsmagazine/blog Gawker about Silk Road, a mail-order illicit drug website,¹¹⁵ Senators Charles Schumer and Joe Manchin called for federal authorities to shut down the Silk Road narcotics site.¹¹⁶ In addition to denouncing Silk Road, Senator Schumer further declared bitcoin “an online form of money laundering used to disguise the source of money.”¹¹⁷ While Senator Schumer did not call for the criminalization of bitcoin, his comments did raise questions as to its legal status in the United States. Are bitcoins legal,¹¹⁸ and are there existing U.S. laws prohibiting bitcoins use?

¹¹⁵ *Id.*

¹¹⁶ Letter from Charles Schumer, U.S. Senator from New York, & Joe Manchin, U.S. Senator from West Virginia, to Eric Holder, U.S. Attorney General, & Michele Leonhart, Administrator, Drug Enforcement Administration (June 5, 2011) (republished in *Schumer Wants Underground Drug Website Shut Down*, WKBW NEWS (June 5, 2011, 5:45 PM), <http://www.wkbw.com/news/political/Schumer-Wants-Underground-Drug-Website-Shut-Down-123196923.html>); *see also* *Schumer Pushes to Shut Down Online Drug Marketplace*, NBC NEW YORK (June 5, 2011), <http://www.nbcnewyork.com/news/local/123187958.html>; Lauri Apple, *Senators Already Trying to Shutter Online Drug Market*, GAWKER (June 5, 2011, 4:47 PM), <http://gawker.com/5808701/senators-already-trying-to-shutter-online-drug-market>.

¹¹⁷ Mike Masnick, *Senator Schumer Says Bitcoin Is Money Laundering*, TECHDIRT (June 6, 2011, 9:26 AM), <http://www.techdirt.com/articles/20110605/22322814558/senator-schumer-says-bitcoin-is-money-laundering.shtml> (quoting Senator Schumer); *see also* Lyons, *supra* note 69, at 32 (explaining Senator Schumer’s concerns with bitcoin and the now shut-down Silk Road Website). Since his statements in June 2011, Senator Schumer has not continued to pursue either his concerns with Silk Road or with Bitcoin. Adrienne Jeffries, *Eight Months After Sen. Chuck Schumer Blasted Bitcoin, Silk Road is Still Booming*, BETABEAT (Jan. 26, 2012, 8:59 AM), <http://www.betabeat.com/2012/01/26/eight-months-after-sen-chuck-schumer-blasted-bitcoin-silk-road-is-still-booming/>. In fact, Senator Schumer’s comments about bitcoin are said to have raised the profile of the technology and accelerated the currency’s advance. *Id.* (quoting bitcoin developer Amir Taaki).

¹¹⁸ Some have argued that the bitcoin technology is no more a form of money laundering than transactions involving cash. *See, e.g.*, Masnick, *supra* note 117. 18 U.S.C. § 1957 prohibits a person from “engaging in monetary transactions in criminally-derived property.” In order to obtain a conviction for money laundering, “the government must prove that (1) the defendant engaged or attempted to engage in a monetary transaction with a value of more than \$10,000; (2) the defendant knew that the property involved in the transaction had been derived from some form of criminal activity; and (3) the property involved in the transaction was actually derived from specified unlawful activity.” 91 C.J.S. United States § 163 (2011) (citing *U.S. v. Carucci*,

The remainder of this Section will review the relevant federal and state laws in order to determine whether bitcoins could be regulated under existing provisions.

C. Banking, Money Transmitters, Electronic Funds Transfers

Since its inception in 2009, more than seven million bitcoins have been created and circulated.¹¹⁹ One key concern, however, is the legal relationship, or lack thereof, formed during the mining of bitcoins. Bitcoin is not run by a corporation or non-profit group.¹²⁰ In fact, the lack of a central authority means that the bitcoin payment system is not really run by anyone or anything.¹²¹ As a result, there is no contractual relationship between bitcoin miners and the creator or provider of the bitcoin system. Further, unlike virtual worlds that are governed by service agreements,¹²² there are no terms of service or user agreement in mining or using bitcoins.

Given the unregulated character of the bitcoin system, one must distinguish its use from other similar activities in order to understand how the law interacts with the use and distribution of bitcoins. Since bitcoins operate similar to an alternative currency

364 F.3d 339, 343 (1st Cir. 2004)); *see also* 18 U.S.C. § 1957 (2006). The dollar value of the average bitcoin transaction is not known. This Comment will assume that the average bitcoin user is engaging in transactions far less than ten thousand dollars and would have very little knowledge as to the property in which other users' bitcoins on the bitcoin network were derived, and, therefore, bitcoin itself is not money laundering. Nonetheless, bitcoins and money laundering would be an interesting area of exploration.

¹¹⁹ Dingle, *supra* note 50. The current rate of production is roughly fifty bitcoins created every ten minutes. *Id.*

¹²⁰ Bitcoin is an open-source project with a database that exists only on the private computers of its users. Brito, *Online Cash*, *supra* note 99. Therefore, "there is no Bitcoin company to raid, subpoena or shut down." *Id.* While Nakamoto did set up the bitcoin system, neither he nor any other entity continues to run it. *See* Wallace, *supra* note 21 (explaining that Nakamoto vanished in early 2011 and ceased to respond to emails).

¹²¹ *The Tuesday Podcast: Bitcoin*, *supra* note 59. The bitcoin system does require, at a minimum, the parties to the transaction to agree to the exchange and the bitcoin network, located and operated by thousands of peer users across the world, to process the payment; *see infra* Part II.D.1 (discussing the contractual relationship formed in a bitcoin-based exchange).

¹²² *See* Leandra Lederman, "Stranger than Fiction": Taxing Virtual Worlds, 82 N.Y.U. L. REV. 1620, 1628–30 (2007) (explaining the terms of user agreements and the ability to use virtual currency in the online games World of Warcraft and Second Life).

with individual users,¹²³ banking concepts and regulations appear to be applicable.¹²⁴ This Comment will first examine the definition of banking under federal law and then conduct a brief review of state regulations. Then, if the bitcoin system is determined not to be a banking service, this Comment will consider the other services and regulations which may apply. In Part II.B.2, this Comment will explore the similarities of the bitcoin system to money transmitter services (as defined under federal and state laws), electronic fund transfers (governed by the Federal Reserve Board's Regulation E),¹²⁵ and the applicability of U.S. legal tender laws vis-à-vis state contract law. Finally, II.B.2 will compare bitcoins to other alternative currencies and their legal statuses in order to identify the legal limitations on the bitcoin system.

1. Banking Activity

Many people utilize bitcoins as a sort of banking device or pseudo bank account.¹²⁶ Therefore, the banking definitions under U.S. law serve as a useful starting point to understand the legal parameters of bitcoin use. Black's Law Dictionary defines a bank as "[a] financial establishment for the deposit, loan, exchange, or issue of money and for the transmission of funds; esp., a member of the Federal Reserve System."¹²⁷ Black's further explains:

Under securities law, a bank includes any financial institution, whether or not incorporated, doing business

¹²³ See *supra* Part II.A.4 (explaining the way in which a bitcoin is used); see also discussion *infra* Part II.D.3 (containing information on alternative currencies).

¹²⁴ There do appear to be legal applications with the bitcoin service companies, such as the online exchanges or merchants accepting bitcoins. This article will touch on these issues as they arise, but the primary focus of this article will center on the technology's application and the rights of the individual bitcoin user under U.S. and state laws.

¹²⁵ 12 C.F.R. §§ 205.1–205.18 (2010).

¹²⁶ See, e.g., Anthony Freeman, *Bitcoin: The Ultimate Offshore Bank Account*, ECONOMICS & LIBERTY (Aug. 23, 2011), <http://economicsandliberty.wordpress.com/2011/08/23/bitcoin-the-ultimate-offshore-bank-account/> (describing bitcoin as "[t]he Ultimate Offshore Bank Account" due to the virtual currency's financial privacy, protection from theft and taxation, protection from litigation, diversification of currency options, jurisdictional diversification, and its global access).

¹²⁷ *Bank*, BLACK'S LAW DICTIONARY (9th ed. 2009).

under federal or state law, if a substantial portion of the institution's business consists of receiving deposits or exercising fiduciary powers similar to those permitted to national banks and if the institution is supervised and examined by a state or federal banking authority¹²⁸

The U.S. Code contains a number of examples and definitions of banking and banking services that closely resemble the Black's definition. The Code generally requires that the institution accept deposits in order to be classified as a bank, in addition to other permissible activities.¹²⁹ For instance, 12 U.S.C. § 24 explains that the business of banking includes "discounting and negotiating promissory notes, drafts, bills of exchange, and other evidences of debt; . . . receiving deposits; . . . buying and selling exchange, coin, and bullion; . . . loaning money on personal security; and . . . obtaining, issuing, and circulating notes."¹³⁰

Section 1813 of the U.S. Code defines "bank" as "any national bank and State bank, and any Federal branch and insured branch" and "includes any former savings association."¹³¹ The same section further states:

The term 'State bank' means any bank . . . , [or similar] institution which—(A) is engaged in the business of receiving deposits . . . ; and (B) is incorporated under the laws of any State or . . . the District of Columbia, including any cooperative bank or other unincorporated bank the deposits of which were insured by the [Federal Deposit Insurance] Corporation¹³²

Under the Bank Holding Company Act of 1956,¹³³ Congress defined a bank as "[a]n institution organized under the laws of the United States . . . which both—(i) accepts demand deposits or deposits that the depositor may withdraw by check or similar means for payment to third parties or others; and (ii) is

¹²⁸ *Id.*

¹²⁹ See *infra* notes 130-41 and accompanying text (defining characteristics of a bank under U.S. law).

¹³⁰ 12 U.S.C. § 24 (2006).

¹³¹ 12 U.S.C. § 1813(a)(1) (Supp. 2006).

¹³² 12 U.S.C. § 1813(a)(1).

¹³³ 12 U.S.C. § 1841.

engaged in the business of making commercial loans.”¹³⁴ The rules promulgated by the Federal Reserve Board under this section match the definition of bank under Regulation Y,¹³⁵ which administers the Board’s regulatory function.¹³⁶ Thus, under federal law, a bank is defined as an institution that accepts deposits and uses those deposits for the purpose of making loans.

Arguably, it is easier to spell out the characteristics that define an institution as carrying out the business of banking than actually defining a bank itself.¹³⁷ Some states’ definitions mirror the federal definition, requiring a bank to be an institution that receives deposits and makes loans.¹³⁸ Other states define “banks” as organizations that engage in one or more of a set list of activities.¹³⁹ Still other states have adopted the definition provided in the Uniform Commercial Code¹⁴⁰ (“UCC”), which defines a bank “as a person [or institution] engaged in the business of banking, including a savings bank, savings and loan

¹³⁴ 12 U.S.C. § 1841(c)(1)(B).

¹³⁵ 12 C.F.R. § 225.2 (2009).

¹³⁶ 12 C.F.R. § 225.2; *see also* Bd. of Governors of Fed. Reserve Sys. v. Dimension Fin. Corp., 474 U.S. 361, 363 (1986) (finding that the Federal Reserve Board went beyond its statutory authority in defining banks as “any institution that (1) accepts deposits that ‘as a matter of practice’ are payable on demand and (2) engages in the business of making ‘any loan other than a loan to an individual for personal, family, household, or charitable purposes’ including ‘the purchase of retail installment loans or commercial paper, certificates of deposit, bankers’ acceptances, and similar money market instruments’”).

¹³⁷ KENNETH KOAMA MWENDA, *BANKING SUPERVISION AND SYSTEMIC BANK RESTRUCTURING: AN INTERNATIONAL & COMPARATIVE LEGAL PERSPECTIVE*, 3 (2000) (explaining that courts have not provided a satisfactory definition of banking but have spelled out the characteristics of banking).

¹³⁸ *See, e.g.*, N.M. STAT. § 58-1C-3 (2003) (defining “bank” as the term as defined in 12 U.S.C. Section 1813(h)); WYO. STAT. § 13-9-307 (2007) (providing that a bank “has the meaning set forth in the Bank Holding Company Act, 12 U.S.C. section 1841(c)”).

¹³⁹ *See, e.g.*, N.H. REV. STAT. § 384-B:1 (2003) (defining a bank as “any bank, trust company, savings bank and trust company, loan and banking company, commercial bank, mutual savings bank, guaranty savings bank, cooperative bank, savings and loan association, building and loan association or similar institution which is chartered as such by this state and actively engaged in business as such therein”); GA. CODE § 7-1-600 (2003) (defining a bank as “any moneyed corporation authorized by law to receive deposits of money and commercial paper, to make loans, to discount bills, notes, and other commercial paper, to buy and sell bills of exchange, and to issue bills, notes, acceptances, or other evidences of debt”).

¹⁴⁰ *See, e.g.*, OHIO REV. CODE § 1304.01 (2004).

association, credit union, or trust company.”¹⁴¹ The general consensus, despite minor differences in individual states’ definitions, is that a bank is an institution that accepts deposits and makes loans.

2. Other Financial Service Activities

The bitcoin network transfers “virtual currency” between parties through a system managed by other individual users who build blocks and block chains necessary to effectuate the transfer.¹⁴² This system arguably resembles a money transmitting service—a business that, as its name suggests, transmits money between parties—which is regulated by the U.S. Treasury and the states.¹⁴³ Another possible characterization is that the exchange of bitcoins constitutes an electronic funds transfer—since they serve as a medium of online payment—which is regulated by the Federal Reserve.¹⁴⁴

a. Money Transmitter Licensing Laws

At first glance, the bitcoin system appears similar to a money transmitter business. The Second Circuit described a money transmitter business as a business that “receives money from a customer and then, for a fee paid by the customer, transmits that money to a recipient in a place that the customer designates, usually a foreign country.”¹⁴⁵ Generally, money transmitter businesses must be licensed by the state in which they are located. American Express prepaid,¹⁴⁶ a quintessential online money transmission business, lists licenses in forty-eight states and territories.¹⁴⁷

¹⁴¹ U.C.C. § 4-105 (2006).

¹⁴² See *How Bitcoin Works*, *supra* note 47 (stating that the bitcoin mining process is used to maintain the transaction database).

¹⁴³ See *infra* Part II.C.2.a.

¹⁴⁴ See *infra* Part II.C.2.b (discussing the electronic funds transfer).

¹⁴⁵ *U.S. v. Velastegui*, 199 F.3d 590, 592 (2d Cir. 1999).

¹⁴⁶ See *American Express Prepaid Cards*, AMERICAN EXPRESS, <https://www.americanexpress.com/prepaid> (last visited Mar. 31, 2012).

¹⁴⁷ See *State License*, AMERICAN EXPRESS, <https://www212.americanexpress.com/dsm/live/dsm/dom/us/en/personal/cardmember/additionalproductsandservices/giftcardsandtravelerscheques/statelicensing1.do?vgnextoid=494ec2602565b110VgnVCM100000defaad94RCRD&vgnnextchannel=95ddb81e8482a110VgnVCM100000defaad94RCRD&appinstancen>

Congress sought to regulate money transmitter businesses and services “in order to combat the growing use of money transmitting businesses to transfer large amounts of the monetary proceeds of unlawful enterprises.”¹⁴⁸ In the statute, which regulates money transmitters, Congress provided: “It is the purpose of this subchapter . . . to require certain reports or records where they have a high degree of usefulness in criminal, tax, or regulatory investigations or proceedings, or in the conduct of intelligence or counterintelligence activities, including analysis, to protect against international terrorism.”¹⁴⁹

Congress made a distinction between a money transmitter business and a money transmitter service. Federal law defines a money transmitting business as:

*[A]ny business . . . which— (A) provides check cashing, currency exchange, or money transmitting or remittance services, or issues or redeems money orders, travelers’ checks, and other similar instruments or any other person who engages as a business in the transmission of funds, including any person who engages as a business in an informal money transfer system or any network of people who engage as a business in facilitating the transfer of money domestically or internationally outside of the conventional financial institutions system; (B) is required to file reports . . .; and (C) is not a depository institution*¹⁵⁰

The federal rules implementing the statute supply further guidance on the definition. They identify a money transmitter business as “[a] person wherever located doing business . . . wholly or in substantial part within the United States” as a: (1) dealer in foreign exchange; (2) check casher; (3) issuer or seller of traveler’s checks or money orders; (4) issuer, seller, or redeemer of stored value; or (5) money transmitter service provider.¹⁵¹

The U.S. Code provides that “money transmitter service[s] . . . include[] accepting currency or funds *denominated in the currency of any country* and transmitting the currency or

ame=default (last visited Mar. 31, 2012).

¹⁴⁸ *Velastegui*, 199 F.3d at 593.

¹⁴⁹ 31 U.S.C. § 5311 (2006).

¹⁵⁰ 31 U.S.C. § 5330(d)(1) (emphasis added).

¹⁵¹ 31 C.F.R. § 1010.100(ff) (2010).

funds . . . by any means through a financial agency or institution, a Federal reserve bank or other facility of the . . . Federal Reserve System, or an electronic funds transfer network.”¹⁵² Again, the implementing regulations provide additional detail. Section 1010.100 states that “[t]he term ‘money transmission services’ means the acceptance of currency, funds, or other value that substitutes for currency from one person and the transmission of currency, funds, or other value that substitutes for currency to another location or person by any means.”¹⁵³ The term money transmission service also includes “[a]ny other person engaged in the transfer of funds.”¹⁵⁴ While the statute primarily focuses on businesses transferring funds denominated in foreign and domestic currency for a profit, the federal rules augment this definition to also include any general transfer of currency, funds, or substitutes from one person to another.

Given that such an expansive definition of money transmission service could entail a large number of activities, the regulations provide some limitations. They explain that “[w]hether a person is a money transmitter . . . is a matter of facts and circumstances.”¹⁵⁵ Further, a money transmitter shall not include “[a] natural person who engages in an activity [previously mentioned in the statute] . . . on an infrequent basis and not for gain or profit.”¹⁵⁶

Case law provides further insight into when a business would be considered a money transmission business or service.¹⁵⁷ First, a money transmitting business does not need to be engaged in illicit activity in order to be classified as illegal. In *U.S. v. Dimitrov*,¹⁵⁸ the Seventh Circuit found that even though the defendant’s money transmitting business was conducted for

¹⁵² 31 U.S.C. § 5330(d)(2) (emphasis added).

¹⁵³ 31 C.F.R. § 1010.100(ff)(5)(i)(A) (2010).

¹⁵⁴ 31 C.F.R. § 1010.100(ff)(5)(i)(B).

¹⁵⁵ 31 C.F.R. § 1010.100(ff)(5)(ii).

¹⁵⁶ 31 C.F.R. § 1010.100(ff)(8)(iii).

¹⁵⁷ People found to be operating an illegal money transmitting business are indicted under 18 U.S.C. § 1960, which prohibits the operation of an “unlicensed money transmitting business” as defined by state law. 18 U.S.C. § 1960(a)-(b); *see also* *U.S. v. Talebnejad*, 460 F.3d 563, 568 (4th Cir. 2006) (describing the elements of the federal offense under § 1960 as “(1) operat[ing] a money transmitting business, (2) that affects interstate commerce, and (3) that is unlicensed under state law, when (4) state law requires a license and (5) state law punishes lack of a license as a felony or misdemeanor”).

¹⁵⁸ *U.S. v. Dimitrov*, 546 F.3d 409 (7th Cir. 2008).

legitimate purposes, the lack of a license made it illegal under state law and punishable under federal law.¹⁵⁹ Second, it is the control and operation of a business, rather than being a participant in the transfer of funds, that is illegal. In *U.S. v. Talebnejad*,¹⁶⁰ the Fourth Circuit explained that the prohibition “applies only to one who ‘conducts, controls, manages, supervises, directs, or owns’ a money transmitting business, knowing that it is not licensed.”¹⁶¹ Therefore, liability is only associated with “those who are, in some substantial degree, in charge of the operation” rather than employees.¹⁶² The facilitation of a funds transfer by an unlicensed money transmitter business is prohibited regardless of whether the transfer is international or domestic.¹⁶³

b. Electronic Funds Transfer

Another source of applicable U.S. laws and regulations are those governing electronic fund transfers (“EFT”). Bitcoins are a means of electronic payments.¹⁶⁴ The Federal Reserve System is responsible for regulating electronic payments under the Electronic Fund Transfer Act of 1978 (“EFTA”).¹⁶⁵ The purpose of the EFTA is to “provide a basic framework establishing the rights, liabilities, and responsibilities of participants in electronic fund transfer systems.”¹⁶⁶ One court explained that the Act “is aimed at providing a framework of law regulating the rights of consumers . . . against financial institutions in electronic funds

¹⁵⁹ *Id.* at 411.

¹⁶⁰ *Talebnejad*, 460 F.3d at 568.

¹⁶¹ *Id.* at 572 (quoting 18 U.S.C. § 1960(a) (2006)).

¹⁶² *Id.*

¹⁶³ *See* *U.S. v. Velastegui*, 199 F.3d 590, 595 (2d Cir. 1999) (reversing and reinstating the district court’s dismissal of charges that the defendant who transmitted money directly to a foreign country in contravention of New York state law was operating a money transmitting business without a license as prohibited by § 1960); *see also* *U.S. v. Mazza-Alaluf*, 621 F.3d 205 (2d Cir. 2010) (upholding district court’s conviction of defendant operating a domestic money transmitting business in multiple states without appropriate state licenses).

¹⁶⁴ *See infra* note 169 (defining electronic payment).

¹⁶⁵ 15 U.S.C. § 1693 (2006). The Federal Reserve Board has promulgated rules under Regulation E to implement the provisions of the Electronic Funds Transfer Act as provided by the statute. 12 C.F.R. §§ 205.1–205.20 (2010).

¹⁶⁶ 15 U.S.C. § 1693(b).

transfers.”¹⁶⁷ Another court explained that the “legislation was designed to create rights for the consumer and help bring certainty to an era of banking which was fast becoming faceless.”¹⁶⁸

Although the EFTA is designed to protect consumers from impropriety by financial institutions conducting electronic transfers of funds, its definitions of a financial institution and an electronic fund transfer (“EFT”) are important to understand for purposes of this discussion. An EFT under the EFTA includes “any transfer of funds, other than a transaction originated by check, draft, or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument, or computer or magnetic tape so as to order, instruct, or authorize a financial institution to debit or credit an account.”¹⁶⁹

A “financial institution” under the EFTA is defined as “a State or National bank, a State or Federal savings and loan association, a mutual savings bank, a State or Federal credit union, or any other person who, directly or indirectly, holds an account belonging to a consumer.”¹⁷⁰ Unlike the statute, the regulations implementing the EFTA also include access devices and electronic fund transfers into their definition of “financial institution.”¹⁷¹

D. Other Potential Sources of Regulation

In addition to financial regulatory provisions, other legal

¹⁶⁷ *Shawmut Worcester Cnty. Bank v. First Am. Bank & Trust*, 731 F. Supp. 57, 61 (D. Mass. 1990).

¹⁶⁸ *Spain v. Union Trust*, 674 F. Supp. 1496, 1500 (D. Conn. 1987).

¹⁶⁹ 15 U.S.C. § 1693(a)(6). The EFTA defines a “financial institution” as “a State or National bank, a State or Federal savings and loan association, a mutual savings bank, a State or Federal credit union, or any other person who, directly or indirectly, holds an account belonging to a consumer.” *Id.* § 1693(a)(8). Regulation E, the Federal Reserve’s regulations for implementing the statute, provides a definition of an EFT that mirrors the statute. 12 C.F.R. § 205.3(b) (2010) (defining an “electronic fund transfer” as “any transfer of funds that is initiated through an electronic terminal, telephone, computer, or magnetic tape for purpose of ordering, instructing, or authorizing a financial institution to debit or credit an account”).

¹⁷⁰ 15 U.S.C. § 1693a.

¹⁷¹ 12 C.F.R. § 205.2(i) (2010) (describing “financial institution” as “a bank, savings association, credit union, or any other person that directly or indirectly holds an account belonging to a consumer, or that issues an access device and agrees with a consumer to provide electronic fund transfer services”).

concerns exist as to whether the use of bitcoins causes any contractual problems, whether bitcoins are akin to complementary currencies under the law, and if securities provisions prohibit the use of bitcoins. While there is no statute or case law that speaks directly to the use of bitcoins, a number of analogous examples serve as useful illustrations.

1. Relationship to Contract Law

Skeptics of the bitcoin see a very limited to non-existent future for the virtual currency.¹⁷² One of the reasons for this skepticism is the dollar's ease-of-use. For instance, words on the front of a dollar bill state: "This note is legal tender for all debts, public and private."¹⁷³ This means that merchants in the U.S. generally are required to accept dollars for all purchases.¹⁷⁴ In fact, the U.S. Code supports this by providing that "United States coins and currency . . . are legal tender for all debts, public charges, taxes, and dues."¹⁷⁵

While dollars may be acceptable for all purchases, the freedom of contract allows for the use of other types of payment where specifically bargained for.¹⁷⁶ A helpful analogy is the purchase of goods or services with foreign currency. The UCC,

¹⁷² *The Tuesday Podcast: Bitcoin*, *supra* note 59 (quoting Ronald Mann, Columbia Law School).

¹⁷³ *\$1 Note Diagram*, BUREAU OF ENGRAVING AND PRINTING, <http://moneyfactory.gov/images/1noteid.pdf> (last visited Mar. 31, 2012).

¹⁷⁴ *The Tuesday Podcast: Bitcoin*, *supra* note 59 (interviewing Benjamin Friedman, Harvard University, Dept. of Economics). Simply providing a sale price in dollars does not mean that a merchant must legally accept cash in the U.S. See Jennifer Saranow Schultz, *The Merchants That Don't Take Cash*, N.Y. TIMES (June 8, 2010, 3:17 PM), <http://bucks.blogs.nytimes.com/2010/06/08/sorry-no-cash-please/> (explaining that no cash policies appear to be legal in the U.S.). In fact, there are a number of merchants that do not accept cash for goods or services. See *id.* (providing a list of merchants that have adopted card only policies for payment).

¹⁷⁵ 31 U.S.C. § 5103; see also *Legal Tender Cases*, 79 U.S. 457, 548 (1870) (holding that a "contract to pay a certain sum of money is legally performed if paid in currency, which is lawful money at the time payment becomes due or is demanded; and therefore Act Cong. Feb. 25, 1862, making treasury notes a legal tender does not impair the obligation of contracts, although applied to obligations existing before that time.").

¹⁷⁶ See *Brief for the United States at 10, Nortz v. U.S.*, 55 S. Ct. 428 (1935) (No. 531), 1996 WL 34303668 at *10 (explaining that Treasury notes have been legal tender for all debts, public and private, *except where otherwise expressly stipulated in the contract.*).

which this Comment will use as a representation of state law, explains that “[u]nless the instrument otherwise provides, an instrument that states the amount payable in foreign money may be paid in the foreign money or in an equivalent amount in dollars.”¹⁷⁷ Thus, if a contract for a sale is made between two parties in the United States whereby the purchase is for an agreed-upon amount of Swiss francs, the purchaser may choose to pay with Swiss francs or the equivalent amount of dollars on the day of demand.¹⁷⁸ However, if the contract specifies the medium of payment to be Swiss francs, then the contract is only payable in Swiss francs.¹⁷⁹

If bitcoins are not considered currency, then any trade of a good or service for bitcoins would essentially be a barter contract.¹⁸⁰ Barter contracts are also covered under the UCC.¹⁸¹ The statute of frauds provision under Section 2-201¹⁸² requires the inclusion of a price within a contract, and where the price “consists of goods rather than money, the quantity of goods must be stated.”¹⁸³ Further, Section 2-304 provides that “[t]he price may be made payable in money or otherwise. If it is payable in whole or in part in goods, each party is a seller of the goods which he is to transfer.”¹⁸⁴ Thus, even in a barter contract, an agreement for the exchange of bitcoins would still be valid and would receive the full force of state contract law.

¹⁷⁷ U.C.C. § 3-107 (2002). For states that have not adopted the 2002 version of UCC Article 3, the 1990 version also provides “[a] promise or order to pay a sum stated in a foreign currency is for a sum certain in money and, unless a different medium of payment is specified in the instrument, may be satisfied by payment of that [equivalent] number of dollars.” U.C.C. § 3-107 (1990).

¹⁷⁸ FRED H. MILLER & ALVIN C. HARRELL, *THE LAW OF MODERN PAYMENT SYSTEMS AND NOTES* 2-47 (2nd ed. 2002).

¹⁷⁹ *Id.*

¹⁸⁰ *See Barter*, BLACK’S LAW DICTIONARY (9th ed. 2009) (defining barter as “[t]he exchange of one commodity for another without the use of money”).

¹⁸¹ RICHARD A. LORD, *WILLISTON ON CONTRACTS* § 26:5 (4th ed. 1989).

¹⁸² U.C.C. § 2-201 (1990).

¹⁸³ U.C.C. § 2-201, cmt. 1.

¹⁸⁴ U.C.C. § 2-304.

2. Complementary Currencies

a. Local Currencies

Local or alternative currencies serve as a useful comparison for the treatment of bitcoins under the law. “Local currency involves the use of a medium of exchange other than national currency to obtain goods and services.”¹⁸⁵ The key characteristic is that the system creates a medium of exchange for transactions that has real value within the community.¹⁸⁶ At its purest form, a simple barter between two parties constitutes a local currency.¹⁸⁷ A community currency picks up on this simplistic notion of bartering and adds the flexibility of paper denominations to allow participants to make exchanges with multiple parties.¹⁸⁸ The paper denominations are notes issued by a non-governmental group—usually within a confined locality—that have monetary value designed to develop local economies.¹⁸⁹ This medium of exchange is accepted for good and services within the community according to the parameters of the system.

One example of a community currency is the Time Dollars system, a social experiment created by Edgar Cahn, a professor at the District of Columbia Law School.¹⁹⁰ In the Time Dollar system, a person who contributes his or her time through a service to others in the community receives a time credit, and the person receiving the service receives a time debit that must be

¹⁸⁵ Lewis D. Solomon, *Reflections on the Future of Business Organizations*, 20 CARDOZO L. REV. 1213, 1230 (1999) [hereinafter Solomon, *Reflections*].

¹⁸⁶ Cf. BERNARD LIETAER, *THE FUTURE OF MONEY, A NEW WAY TO CREATE WEALTH, WORK, AND A WISER WORLD*, 187–89 (2001) (arguing that the Time Dollar community currency is a “means of payment” equal to “real money”).

¹⁸⁷ Solomon, *Reflections*, *supra* note 185, at 1230.

¹⁸⁸ See Lewis D. Solomon, *Local Currency: A Legal and Policy Analysis*, 5 KAN. J.L. & PUB. POL’Y 59, 74 (1996) [hereinafter Solomon, *Local Currency*] (illustrating the flexibility of the Ithaca HOURS bartering system).

¹⁸⁹ See BERNARD LIETAER, *supra* note 186, at 187–89 (providing examples of local currencies); see also *id.* at 206 (explaining that complimentary currencies function in parallel with national currencies).

¹⁹⁰ Edgar Cahn proposed the Time Dollar system to be used by communities globally. See generally EDGAR CAHN, *TIME DOLLARS: THE NEW CURRENCY THAT ENABLES AMERICANS TO TURN THEIR HIDDEN RESOURCE—TIME—INTO PERSONAL SECURITY & COMMUNITY RENEWAL* (1992).

repaid within the community.¹⁹¹ Often there is a central database that lists the offerings and needs of the community.¹⁹² This allows people unable to afford the services offered to receive assistance from those who might otherwise be out of work.¹⁹³

Another example of a community currency is Ithaca HOURS, which was launched in Ithaca, New York during the 1991 recession to boost the economy and reduce job loss.¹⁹⁴ The system operates by providing people with the equivalent of ten dollars for each hour worked within the community.¹⁹⁵ The difference between Ithaca HOURS and a Time Hours system is that Ithaca HOURS can be spent as paper currency within the community to pay individuals for their services or at local businesses which accept them.¹⁹⁶ A unique attribute of the Ithaca HOURS system is that it allowed advertisers to quote the price of their goods and services in a combination of dollars and HOURS.¹⁹⁷

Community currencies find their authority under a unique source of U.S. law: Article I of the U.S. Constitution provides that “[n]o state shall . . . coin Money [or] emit Bills of Credit.”¹⁹⁸ Since many community currency systems rely on paper notes, they are not considered coined money.¹⁹⁹ They are instead considered bills

¹⁹¹ See LIETAER, *supra* note 186, at 187–89 (explaining the Time Dollar system through use of a hypothetical).

¹⁹² CHARLES EISENSTEIN, SACRED ECONOMICS: MONEY, GIFT, AND SOCIETY IN THE AGE OF TRANSITION 306 (2011).

¹⁹³ *Id.*

¹⁹⁴ Judith D. Schwartz, *Alternative Currencies Grow in Popularity*, TIME (Dec. 14, 2008), <http://www.time.com/time/business/article/0,8599,1865467,00.html>.

¹⁹⁵ FAQ, ITHACA HOURS, <http://ithacahours.info/faq.php> (last visited Mar. 31, 2012). Individuals participating in the HOURS system can earn Ithaca HOURS through labor within the community that are redeemable for goods and services. *Id.* Thus, wealth is created through the work done by others. See *id.* (explaining that the HOURS currency represents “the time taken to provide a skill or perform a service”).

¹⁹⁶ See Solomon, *Local Currency*, *supra* note 188, at 74–75 (describing the functionality and benefits of Ithaca HOURS).

¹⁹⁷ See LIETAER, *supra* note 186, at 193–94. In addition to Ithaca HOURS and Time Dollars, there are other community currencies including the PEN Exchange in Maryland, *id.* at 188, 194–95, as well as private company currencies like Deli Dollars and Berk-Shares. Solomon, *Local Currency*, *supra* note 188, at 77–80.

¹⁹⁸ U.S. CONST. art. I, § 10, cl. 1.

¹⁹⁹ See *The Legal Tender Cases*, 110 U.S. 421, 462 (1884) (“The meaning of the terms ‘to coin money’ is . . . to mould metallic substances into forms

of credit as defined by the U.S. Supreme Court in *Craig v. State of Missouri*.²⁰⁰ The decisions concerning bills of credit under the Constitution, however, only pertain to paper money issued by a state or local municipality.²⁰¹

This prohibition on issuing bills of credit does not extend to private, non-governmental actors. In *Briscoe v. Bank of Commonwealth of Kentucky*,²⁰² Justice Story explained that “[t]he constitution does not prohibit the emission of all bills of credit, but only the emission of bills of credit by a state.”²⁰³ The Constitution also “does not prohibit private persons, or private partnerships, or private corporations . . . from issuing bills of credit.”²⁰⁴

There are some states that limit the issuance, circulation, and use of alternative currencies. As Professor Solomon notes in his 1996 article,²⁰⁵ a number of jurisdictions limit the use of alternative currencies.²⁰⁶ They are mostly focused on prohibiting

convenient for circulation and to stamp them with the impress of the government authority indicating their value with reference to the unit of value established by law”).

²⁰⁰ 29 U.S. 410, 415 (1830) (defining bills of credit as “paper intended to circulate through the community for its ordinary purposes as money and redeemable at a future day”); *accord* *Briscoe v. Bank of Commonwealth of Kent.*, 36 U.S. 257, 258–59 (1837) (“To constitute a bill of credit, within the constitution . . . it must be a paper which circulates on [credit] . . . and so received and used in the ordinary business of life”).

²⁰¹ Solomon, *Local Currency*, *supra* note 188, at 85 (quoting *Police Jury of Tensas v. Britton*, 82 U.S. 566, 570–573 (1872); *see also Craig*, 29 U.S. at 432 (stating that the clause in the Constitution providing “that no state shall emit bills of credit . . . comprehend[s] the emission of any paper medium, by a state government, for the purpose of common circulation.”); *cf. Mayor of Nashville v. Ray*, 86 U.S. 468, 475 (1873) (explaining that a local government’s ability to borrow money must be conferred upon it through legislation passed by the state).

²⁰² 36 U.S. 257 (1837).

²⁰³ *Id.* at 348 (Story, J., dissenting); *accord* *State ex rel. Shiver v. Comptroller Gen.*, 4 S.C. 185, 209 (1873) (adopting Justice Story’s constitutional definition of bills of credit); *cf. Hous. & Tex. Cent. R.R. Co. v. Tex.*, 177 U.S. 66, 87 (1900) (adopting Justice Story’s view that the Constitution’s ban on bills of credit extend to “paper . . . issued by a state, upon its faith, designed to circulate as money, and to be received and used as such in the ordinary business of life”).

²⁰⁴ *Briscoe*, 36 U.S. at 348 (Story, J., dissenting).

²⁰⁵ Solomon, *Local Currency*, *supra* note 188, at 85–86.

²⁰⁶ *Id.*; e.g., KY. CONST. § 244; ARK. CODE § 11-4-403 (2002); CAL. LAB. CODE § 212 (2003); COLO. REV. STAT. § 8-4-102 (2005); D.C. CODE § 32-1302

companies from paying employees in company scrip rather than U.S. dollars.²⁰⁷

b. A Substitute/Counterfeit for U.S. Currency: The Liberty Dollar Example

One comparison that often arises in the discussion of the bitcoin is to the ill-fated alternative currency, the Liberty Dollar. The creator of the Liberty Dollar, Bernard von Nothaus, was convicted “of making coins resembling and similar to United States coins; of issuing, passing, selling, and possessing [these] Liberty Dollar coins. . . for use as current money” in violation of 18 U.S.C. § 485, among other offenses.²⁰⁸ Von Nothaus designed and created coins that were marked with a dollar sign, the words “dollar,” “USA,” and “Trust in God” (rather than “In God We Trust”) in order to appear very similar to legitimate U.S. coins.²⁰⁹ Von Nothaus, through his companies the National Organization for the Repeal of the Federal Reserve and Internal Revenue Code (NORFED) and Liberty Dollar Services, Inc., began issuing and disseminating Liberty Dollar coins and placing them in circulation throughout the U.S.²¹⁰ The purpose was to mix the Liberty Dollar coins with the money supply of the United States “to limit reliance on, and to compete with, United States currency.”²¹¹ The violation by von Nothaus and his associates was not that he tried to create a new form of currency, but that he violated § 485 by coining real metal coins and masquerading them as U.S. currency.

(2001); IND. CODE § 22-2-4-2 (2001); NEV. REV. STAT. § 608.120 (2004); OKLA. STAT. tit. 40, § 165.2 (2006); TENN. CODE § 50-2-102 (2010); VT. STAT. tit. 11, § 935 (2007); VA. CODE § 40.1-29(B) (2002).

²⁰⁷ See *Scrip*, BLACK’S LAW DICTIONARY, 712 (9th ed. 2009) (defining “scrip” as a “document that entitles the holder to receive something of value . . . [especially] paper money, that is issued for temporary use”).

²⁰⁸ Press Release, Federal Bureau of Investigation, Defendant Convicted of Minting His Own Currency (Mar. 18, 2011), *available at* <http://www.fbi.gov/charlotte/press-releases/2011/defendant-convicted-of-minting-his-own-currency>; 18 U.S.C. § 485 (2006) (providing that the passing, creation, distribution or sale of forged or counterfeit coin or currency is punishable under the law).

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ *Id.*

3. Securities Concerns

Because a number of people utilize bitcoins as an investment,²¹² their treatment under U.S. securities laws is another concern. Bitcoins are purchased and exchanged in a number of different manners (in person, on online exchanges, and over the Internet), and this can be interpreted in a number of different ways (as a currency, an investment, or even a futures contract). They can likewise be regulated in a variety of manners. Nonetheless, in evaluating securities implications, Justice Warren explained that “in searching for the meaning and scope of the word ‘security’ in the [1934] Act, form should be disregarded for substance and the emphasis should be on economic reality.”²¹³ These words of wisdom have been applied to many areas within securities by other courts providing a foundational rationale to approaching financial regulation.²¹⁴

a. Note, Stock, or Investment Contract

If bitcoins are considered a security, the Securities and Exchange Commission would have broad power to regulate or even prohibit the exchange of bitcoins.²¹⁵ The Securities Act of 1933 defines a security as “any note, stock, treasury stock, security future, bond, debenture, evidence of indebtedness, certificate of interest or participation of any profit-sharing agreement, . . . investment contract, . . . certificate of deposit for a security, . . . or, in general, any interest or instrument commonly known as a ‘security.’”²¹⁶ In *Securities & Exchange Commission*

²¹² Surowiecki, *supra* note 107, at 106.

²¹³ Tcherepnin v. Knight, 389 U.S. 332, 336 (1967) (citing SEC v. W. J. Howey Co., 328 U.S. 293, 298 (1946)).

²¹⁴ See, e.g., United Hous. Found., Inc. v. Forman, 421 U.S. 837, 838 (1975) (holding shares in an apartment which entitled purchasers to lease an apartment were not securities); C.N.S. Enters., Inc. v. G. & G. Enters., Inc., 508 F.2d 1354, 1357 (7th Cir. 1975) (relating to bank notes secured by property); Weaver v. Marine Bank, 637 F.2d 157, 161 (3d Cir. 1980) *rev'd*, 455 U.S. 551 (1982) (relating to deceptive practices from securities regulations).

²¹⁵ See *The Laws That Govern the Securities Industry*, U.S. SECURITIES AND EXCHANGE COMMISSION (last visited Oct. 25, 2012), <http://www.sec.gov/about/laws.shtml> (stating Securities Exchange Act of 1934 gives the SEC broad authority over securities to regulate and prohibit certain activity).

²¹⁶ 15 U.S.C. § 77b(a)(1) (2006).

v. W. J. Howey Co.,²¹⁷ the U.S. Supreme Court defined the basic test used to distinguish an investment contract that falls within the definition of a security from a traditional commercial transaction.²¹⁸ The *Howey* Court explained that the test to determine the presence or absence of an investment contract under the securities statutes is “whether the scheme involves an investment of money in a common enterprise with profits to come solely from the efforts of others.”²¹⁹ Essentially, the distinction is whether the “[investors] are attracted solely by the prospects of a return on their investment.”²²⁰

To specifically determine whether a note is a security, the Court also created a “family resemblance” test in *Reves v. Ernst & Young*.²²¹ Under such a test, “[a] note is presumed to be a ‘security,’ and that presumption may be rebutted only by a showing that the note bears a strong resemblance . . . to one of the enumerated categories of instrument.”²²² The enumerated categories include the evaluation of: (1) the motivations of a reasonable seller and buyer to enter into the contract;²²³ (2) the instrument’s “plan of distribution,” and “whether it is an instrument in which there is ‘common trading for speculation or investment;”²²⁴ (3) public expectations and whether the investing public would consider the instrument to be a security;²²⁵ and (4) whether some mitigating factor that might reduce the risk of instrument renders the application of the Securities Acts unnecessary.²²⁶ Therefore, a note is presumptively assumed to be a security and thus regulated under federal law so long as it does

²¹⁷ 328 U.S. 293 (1946).

²¹⁸ See *United Hous. Found., Inc.*, 421 U.S. at 852 (applying the *Howey* test to determine whether investment contract falls within the purview of either the Securities Act of 1933 or the Securities Exchange Act of 1934).

²¹⁹ SEC v. W. J. Howey Co., 328 U.S. 293, 301 (1946).

²²⁰ *Id.* at 300.

²²¹ 494 U.S. 56, 67 (1990).

²²² *Id.*

²²³ *Id.* at 66. The Court in evaluating this prong explained that “[i]f the note is exchanged to facilitate the purchase and sale of minor asset or consumer good, to correct for the seller’s cash-flow difficulties, or to advance some other commercial or consumer purpose . . . the note is less sensibly described as a ‘security.’” *Id.*

²²⁴ *Id.* (quoting SEC v. C.M. Joiner Leasing Corp., 320 U.S. 344, 353 (1943)).

²²⁵ *Id.*

²²⁶ *Id.* at 67.

not meet one of the *Reves* mitigating factors.

b. Commodities

In addition to securities, bitcoin could also be classified as a commodity, making its exchange a commodity futures contract. Commodities are goods sold in the market with a quality and value uniform throughout the world.²²⁷ Like other traditional commodities, money is clearly a good of uniform quality. This is because it would not matter if two people traded dollar bills when the bills' value is attached to their purchasing power and not the quality of the actual paper or ink.²²⁸

The Commodity Futures Trading Commission ("CFTC") has exclusive jurisdiction over "accounts, agreements . . . and transactions involving contracts of sale of a commodity for future delivery . . . subject to regulation by the Commission."²²⁹ The definition of a commodity futures contract, however, is not provided for in either the Commodity Exchange Act²³⁰ ("CEA") or in CFTC regulations.²³¹ The CEA does, however, negatively define the term "future delivery" to "not include any sale of any cash commodity for deferred shipment or delivery."²³² In *Dunn v. Commodity Futures Trading Commission*, the U.S. Supreme Court held that futures contracts are "agreements to buy or sell a specified quantity of a commodity at a particular price for

²²⁷ *An Exhaustive Guide to Commodities Trading*, COMMODITY TRADING, (last visited Oct. 25, 2012), <http://www.commoditytrading.net>; see also, e.g., 7 U.S.C. § 1a (Supp. 2011) (defining a commodity as: "wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, mill feeds, butter, eggs, Solanum tuberosum (Irish potatoes), wool, wool tops, fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, soybean meal, livestock, livestock products, and frozen concentrated orange juice, and all other goods and articles, except onions . . . motion picture box office receipts . . . , and all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.").

²²⁸ See *Commodity*, BLACK'S LAW DICTIONARY 712 (9th ed. 2009) (defining "commodity" as "[a]n article of trade or commerce").

²²⁹ 7 U.S.C. § 2(a)(1)(A) (2006).

²³⁰ 7 U.S.C. §§ 1-50.

²³¹ Elizabeth D. Lauzon, *What are "Contracts of Sale of a Commodity for Future Delivery" Within Meaning of Commodity Exchange Act* (7 U.S.C.A. §§ 1 et seq.), 182 A.L.R. Fed. 559, § 2a (2002).

²³² 7 U.S.C. § 1a(19).

delivery at a set future date.”²³³ Summarizing the difference between a futures and a forward contract, the Sixth Circuit explained that a “futures contract is a contract for a future transaction, while a forward contract is a contract for a present transaction with future delivery.”²³⁴ Thus, a contract in which a party has the option to enter into a commodity contract at a future date is governed by the CFTC.

Even though commodity futures trading is regulated by the CFTC and must be done in compliance with market rules on a designated exchange,²³⁵ the CEA does not govern “an agreement, contract, or transaction in . . . foreign currency.”²³⁶ The one exception to this rule concerns transactions in foreign currency involving a party who is not “an eligible contract participant”²³⁷ wherein the transaction is “offered, or entered into, on a leveraged or margined basis, or [similarly] financed.”²³⁸ There is also an exception to the exception: a contract in foreign currency with an ineligible participant is still not governed by the CFTC if the transaction is “not a security futures product” or a sale that “results in actual delivery within days” or where there is an enforceable obligation for delivery between the buyer and the seller.²³⁹ Therefore, the CFTC does have authority to regulate any commodity contracts involving futures contracts. However, for contracts involving foreign currency the CFTC only maintains a limited regulatory capacity compared to other commodities.

²³³ 519 U.S. 465, 470 (1997).

²³⁴ *Commodity Futures Trading Comm’n v. Erskine*, 512 F.3d 309, 322 (6th Cir. 2008).

²³⁵ See 7 U.S.C. § 7a-1(a) (2006) (prohibiting unregistered futures trading organizations from using the mail or any “instrumentality of interstate commerce to “perform the functions of a derivatives clearing organization”); see also 7 U.S.C. § 2(a)(1)(A) (explaining CFTC’s exclusive jurisdiction over “transactions involving contracts of sale of a commodity for future delivery”).

²³⁶ 7 U.S.C. § 2(c)(1).

²³⁷ 7 U.S.C. § 2(c)(2)(C)(i)(I)(aa). Eligible contract participant includes: financial institution, registered broker or dealer or agent thereof, futures commission merchant or affiliate, insurance company, financial holding company, or retail foreign exchange dealer. 7 U.S.C. § 2(c)(B)(i)(II).

²³⁸ 7 U.S.C. § 2(c)(2)(C)(i)(I)(bb).

²³⁹ 7 U.S.C. § 2(c)(2)(C)(i)(II).

c. Currency Trading

Another way to view bitcoins in the securities world would be as a foreign currency. The 1934 Securities Exchange Act²⁴⁰ specifically exempts currencies from its definition of a security,²⁴¹ and it has been generally understood that a currency is not a security.²⁴² Justice Stevens, in his concurring opinion in *Reves*, explained, “notes are securities notwithstanding the statute’s exclusion for currency.”²⁴³ This is because currency has always been treated differently from other financial instruments and investments.²⁴⁴ For those that engage in direct currency trading, federal regulations require the registration of parties offering retail foreign exchange contracts as either futures commission merchants or retail foreign exchange dealers. Parties who solicit orders are also required “to register, either as introducing brokers, commodity trading advisors, commodity pool operators . . . or as associated persons of such entities.”²⁴⁵ Therefore, parties that conduct a sufficient amount of currency trading are permitted to continue to do so off market, but may be

²⁴⁰ 48 Stat. 881 (1934) (codified as amended at 15 U.S.C. § 78a (Supp. 2010)).

²⁴¹ See Securities Exchange Act of 1934, § 3(a)(10) (proving “the term ‘security’ . . . shall not include currency or any note, draft, bill of exchange, or banker’s acceptance”). The 1933 Act, however, does not specifically exempt currencies. See Securities Act of 1933, § 3(a)(3), 48 Stat. 74 (1933) (codified as amended at 15 U.S.C. § 77b) (providing an exemption for “[a]ny note, draft, bill of exchange or banker’s acceptance which arises out of a current transaction . . . which has a maturity at the time of issuance not exceeding nine months”).

²⁴² See Lewis D. Lowenfels & Alan R. Bromberg, *What Is A Security Under the Federal Securities Laws?*, 56 ALB. L. REV. 473, 483 (1993) (explaining that “it is generally acknowledged that currency is not a security”).

²⁴³ *Reves v. Ernst & Young*, 494 U.S. 56, 73–74 (1990) (Stevens, J., concurring).

²⁴⁴ See Lauzon, *supra* note 233, at § 2a (describing the authority of the CFTC over foreign currency transactions).

²⁴⁵ Press Release, U.S. Commodity Futures Trading Commission, CFTC Releases Final Rules Regarding Retail Forex Transactions (Aug. 30, 2010), available at <http://www.cftc.gov/PressRoom/PressReleases/pr5883-10>. The recently implemented rules for retail foreign exchange participants also include requirements on disclosure, record keeping, financial reporting and minimum capital standards in addition to registration. Christopher Doering & Roberta Rampton, *U.S. CFTC Issues Final Forex Exchange Market Rule*, REUTERS (Aug. 31, 2010), <http://www.reuters.com/article/2010/08/31/financial-regulation-forex-idUKN3121025420100831>.

required to register with the CFTC.²⁴⁶

II. DISCUSSION

Under U.S. law and regulations, Congress and the Executive Branch have the ability to prohibit or limit the use of bitcoins in the market. Close inspection of the existing laws and regulations, however, show that the traditional institutions and mediums of exchange do not contemplate a technology like bitcoin. This Comment will show that bitcoins fall within a gray area under U.S. law in which they are not necessarily outlawed but still give rise to contractual obligations. Therefore, they should be treated like a local or community currency under the law—receiving full authority as a medium of payment under contract law, requiring taxation on income,²⁴⁷ and not implicating securities regulations.

This treatment—permitting its unfettered use in the marketplace—does little to assuage those who are concerned with the nefarious activity that is often associated with bitcoins. Since any prohibitions on bitcoins will likely be ineffective, this Comment argues against creating an outright prohibition on the use of bitcoins. Instead, federal and state officials should develop a familiarity with the technology underlying bitcoin and the nature of their transactions, which provide enough information to reasonably investigate and counter any illegal activity.

A. Laws Governing Bitcoin Use: Inapplicable Provisions

In response to Senator Schumer's concern that bitcoins are "an online form of money laundering used to disguise the source of money,"²⁴⁸ this Comment set out to explore potential options under U.S. and state law currently in force that might prohibit or limit the use of bitcoins. While regulations pertaining to banking, money transmission, or securities potentially have application

²⁴⁶ Press Release, U.S. Commodity Futures Trading Commission, CFTC Releases Final Rules Regarding Retail Forex Transactions (Aug. 30, 2010), available at <http://www.cftc.gov/PressRoom/PressReleases/pr5883-10>.

²⁴⁷ This Comment does not specifically review the implications of taxation and bitcoins, but a similar analysis has been done by Professor Lederman in her exploration of virtual worlds. Lederman, *supra* note 122.

²⁴⁸ Masnick, *supra* note 117 (quoting Senator Schumer); see also Lyons, *supra* note 69, at 32 (explaining Senator Schumer's concerns with bitcoin and the now-shut-down Silk Road Website).

with bitcoins, further analysis shows that bitcoins and their users fall outside of such federal and state law due to their unique nature. Consequently, the structure of the technology prevents any real limitation on their use under the law.

1. Banking Laws

There are some people who have converted their savings into bitcoins as a means of securing wealth and potentially increasing value.²⁴⁹ While this would understandably conjure up notions of banking activity,²⁵⁰ the nature of bitcoins precludes the application of banking statutes and regulations. The core concept of a bank under both federal and state law is: (1) an institution (2) that accepts deposits and (3) provides loans.²⁵¹ Therefore, in order for bitcoins to fall under the general requirements of a bank it must minimally encompass these three indicia.

The first requirement is that the entity be an institution or person. Bitcoin is not an institution, business, or person²⁵²—it is not even an entity.²⁵³ Bitcoin is essentially a collection of users

²⁴⁹ See, e.g., Falkvinge, *supra* note 28 (describing reasons for converting savings into bitcoins).

²⁵⁰ See Part II.C.1 and accompanying text for a discussion of applicable banking laws.

²⁵¹ See, e.g., 12 U.S.C. § 24 (2006) (defining business of banking to include “receiving deposits; . . . [and] loaning money on personal security; and . . . obtaining, issuing, and circulating notes”); 12 U.S.C. § 1813(a)(2) (defining “State bank” as an institution “engaged in the business of receiving deposits . . . [and] incorporated under the laws of any State”); 12 U.S.C. § 1841(c)(1)(B) (describing a bank as an institution that “accepts deposits . . . [and] is engaged in the business of making commercial loans”); N.H. REV. STAT. ANN. § 384-B:1 (2003) (defining a bank as “any bank, trust company, savings bank and trust company, loan and banking company, commercial bank, mutual savings bank, guaranty savings bank, cooperative bank, savings and loan association, building and loan association or similar institution which is chartered as such by this state and actively engaged in business as such therein”); U.C.C. § 4-105 (2006) (defining a bank “as a person [or institution] engaged in the business of banking”).

²⁵² See Reason TV, *Bitcoin & The End of State-Controlled Money: Q&A with Jerry Brito*, YOUTUBE (June 1, 2011), <http://www.youtube.com/watch?v=yYTqvYqXRbY&feature=dir> (describing bitcoin as having no commodity, government, or business “backing it up”); see also *supra* note 120 (discussing the status of bitcoin as an entity).

²⁵³ See *Entity*, BLACK’S LAW DICTIONARY (9th ed. 2009) (defining “entity” as “[a]n organization (such as a business or a governmental unit) that has a legal identity apart from its members or owners”). Bitcoin is a freeware

embracing a payment mechanism.²⁵⁴ Like any traditional currency, where actual bills and denominations are not institutions, bitcoin is simply a medium of exchange.²⁵⁵ The institutions are the entities that conduct the monetary policy or secure its value similar to, in the case of the U.S. dollar, the Federal Reserve System²⁵⁶ or the United States government,²⁵⁷ respectively. Conversely, bitcoin conducts its monetary policy through software without the need for a central institution,²⁵⁸ and its users secure its value, not a government, business, or other type of organization.²⁵⁹ Thus, bitcoin is not distinct from its users or owners and cannot be an institution.²⁶⁰

The second requirement of a bank is the requirement that it accept deposits.²⁶¹ Instead of storing currency, the bitcoin software only distributes currency.²⁶² Further, bitcoins are stored

software program, much like Firefox is a free browser, except there is no real owner of the bitcoin software. *See supra* note 118. In the case of the Firefox software, the software itself is not a legal entity but instead digital property produced by the Mozilla Foundation. THE MOZILLA FOUNDATION, <http://www.mozilla.org/foundation/> (last visited Oct. 26, 2012). Bitcoin, on the other hand, was created by an unknown pseudonym and has no central organization. *See supra* note 118; *see also* Davis, *supra* note 95, at 62.

²⁵⁴ *See* Reason TV, *supra* note 252 (explaining that within the bitcoin system “every user contributes their computing capacity to the network, while the ledger is in everybody’s computer”). While Nakamoto wrote the software for the implementation of bitcoin and set the maximum number of bitcoins to be mined, he does not have any control or oversight function. Davis, *supra* note 95, at 62.

²⁵⁵ *Cf. id.* (explaining that bitcoin “is both real and elusive—just like its founder”); Surowiecki, *supra* note 107, at 106 (describing bitcoin as a medium of exchange and invented currency).

²⁵⁶ BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, *supra* note 8, at 1.

²⁵⁷ The Legal Tender Cases, 110 U.S. 421, 442 (1884) (upholding the power of Congress “to make bills so emitted a legal tender”).

²⁵⁸ Brito, *Online Cash*, *supra* note 99 (“Bitcoin has no central authority, no one can decide to increase the money supply. The rate of new bitcoins introduced to the system is based on a public algorithm and therefore perfectly predictable”).

²⁵⁹ *See supra* notes 23–25 and accompanying text for a discussion on the value inherent in bitcoins.

²⁶⁰ *See Entity*, BLACK’S LAW DICTIONARY (9th ed. 2009) (defining “entity” as “[a]n organization (such as a business or a governmental unit) that has a legal identity apart from its members or owners”).

²⁶¹ *See supra* notes 127–41 and accompanying text for a discussion on the indicia of a bank.

²⁶² J.P., *supra* note 24. As previously mentioned, the means of distributing

either on a person's computer or in an online wallet, not on the bitcoin network.²⁶³ The idea of using bitcoins as some sort of offshore bank account is, at best, a misnomer. A better characterization of the bitcoin technology is nothing more than storing cash under a mattress or burying a chest of Kruggerands in the yard.

The final requirement of a bank is that it provides loans, usually on a commercial basis.²⁶⁴ Loans are not inherent to the bitcoin system. Rather, bitcoins are traditionally acquired either through mining, exchange, or by purchase—not through loan making.²⁶⁵ Once acquired, there is no expectation that the users ever repay the bitcoin system. Thus, federal and state banking laws are inapplicable.²⁶⁶

2. Money Transmitter

A money transmitter under federal law is generally a business or service that transfers money between parties for a fee.²⁶⁷ Under the U.S. Code, a money transmitter business is a business that facilitates the transfer of money either formally or informally outside the conventional financial system and is not a depository institution.²⁶⁸ The bitcoin technology comes very close

bitcoins from user to user is through the mining process. *See supra* Part II.A.3.

²⁶³ *See supra* Part II.A.2.d (discussing bitcoin storage).

²⁶⁴ *See supra* notes 127-41 and accompanying text for a discussion on the indicia of a bank.

²⁶⁵ *See supra* Part II.A.2 for a discussion on bitcoin acquisition and distribution.

²⁶⁶ The non-applicable banking provisions only mean that the bitcoin technology and individual users of bitcoins are not subject to general banking provisions. An institution or company that accepts bitcoins as deposits or loans bitcoins commercially would certainly constitute banking activity under either state or federal laws. The online service companies that provide online wallet services might fall under different provisions as would the online bitcoin exchanges, especially for larger amounts and transactions. *See* Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 159, 206 (2012) (suggesting that online wallet service and bitcoin exchanges may be subject to liability under the Bank Secrecy Act or the Money Laundering Control Act).

²⁶⁷ *U.S. v. Velastegui*, 199 F.3d 590, 592 (2d Cir. 1999).

²⁶⁸ 31 U.S.C. § 5330(d)(1) (2006); *see also* 31 C.F.R. § 1010.100(ff)(5)(i)(A) (2010) (describing money transmitter business as “[a] person wherever located doing business . . . wholly or in substantial part within the United States” in the capacity as a: (1) dealer in foreign exchange; (2) check casher; (3) issuer or seller of traveler's checks or money orders; (4) issuer, seller, or redeemer of

to falling within this definition. By its very nature, the bitcoin network informally facilitates the transfer of money²⁶⁹ apart from the conventional financial system.²⁷⁰ Additionally, the bitcoin system is not a depository institution.²⁷¹ However, bitcoin is also not a business, precluding it from being a money transmitter *business* under the U.S. code.²⁷²

Even though bitcoin itself would not be considered a money transmitter business, there is a strong argument that bitcoin users could constitute a money transmission service. The determination of a money transmission service is similar to a money transmitting business, but is more loosely defined and “is a matter of facts and circumstances.”²⁷³ Essentially, a money transmitter service is any operation that accepts currency or funds for transmission to another location.²⁷⁴ The statutes, rules, and case law further explain the factors that create a money transmitter service to include (1) a person or business that controls an operation (2) that engages in the transfer of funds²⁷⁵ or other value that substitutes for currency²⁷⁶ (3) on a frequent basis for a gain or profit,²⁷⁷ and (4) which is required to be licensed

stored value; or (5) money transmitter service).

²⁶⁹ Even if purchasing bitcoins and using them as an exchange medium is not an informal transfer of money, transferring them to other bitcoin users would certainly constitute an informal transfer of money. *Cf.* U.S. v. Banki, 685 F.3d 99, 103 (2d Cir. 2011) (describing “hawala” payment system, money-lending networks common in the Arab world, as an informal payment system in an unlicensed money transmission case); U.S. v. Elfgeeh, 515 F.3d 100, 140 (2d Cir. 2008) (finding that “hawala” is an informal payment system).

²⁷⁰ *See* Nakamoto, *supra* note 22, at 1 (explaining that the bitcoins system is “based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party”).

²⁷¹ *See supra* Part III.A.1 for a discussion explaining that bitcoin is not a depository entity.

²⁷² *See supra* notes 120 and 253-55 and accompanying text for a discussion on the idea that bitcoin is not a legal entity and as such does not fall within the definition of a business. Should a business offer the ability to transfer funds or currency through the use of the bitcoin technology, then it would likely fall within the category of money transmitting business under the law. 31 U.S.C. § 5330(d)(1).

²⁷³ 31 C.F.R. § 1010.100(ff)(5)(ii) (2010).

²⁷⁴ 31 U.S.C. § 5330(d)(2).

²⁷⁵ 31 C.F.R. § 1010.100(ff)(5)(i)(B).

²⁷⁶ 31 C.F.R. § 1010.100(ff)(5)(i)(A).

²⁷⁷ 31 C.F.R. § 1010.100(ff)(8)(iii).

under state law.²⁷⁸

Using these factors, the bitcoin technology would not fall within the definition of a money transmitter service since it is not a legal entity and does not operate for a profit. Still, individual bitcoin users who control and operate the bitcoin program could fall within the regulatory definition of a person.²⁷⁹ Further, the program, while not transferring actual funds in government-backed currency, does transfer bitcoins, which could easily be considered “value that substitutes for currency.”²⁸⁰

The remaining factors depend on the user and his location. For most users, downloading the bitcoin software and transacting on the bitcoin network will not result in any gain or profit any differently than transacting in cash would result in a profit. The user would only download the public ledger supporting bitcoin.²⁸¹ Bitcoin miners might be a different circumstance. These users generate blocks and block chains that serve as the actual means of processing and verifying bitcoin transactions.²⁸² In exchange, the bitcoin software awards miners with bitcoins for their efforts.²⁸³ This activity can certainly be classified as a profit, and some even describe the bitcoin mining process as a business.²⁸⁴ Bitcoin miners could therefore potentially satisfy the for-profit-on-a-frequent-basis factor.

The final determination of a money transmitter service is based on state law.²⁸⁵ If the bitcoin user is in a jurisdiction where there are no requirements to register, then the criminal liability

²⁷⁸ U.S. v. Dimitrov, 546 F.3d 409, 411 (7th Cir. 2008).

²⁷⁹ See 31 C.F.R. § 1010.100(mm) (2010) (defining person as “[a]n individual, a corporation, a partnership, a trust or estate, a joint stock company, an association, a syndicate, joint venture, or other unincorporated organization or group, an Indian Tribe . . . , and all entities cognizable as legal personalities”).

²⁸⁰ 31 C.F.R. § 1010.100(ff)(5)(i)(A).

²⁸¹ See Reason TV, *supra* note 252 (explaining that within the bitcoin system “every user contributes their computing capacity to the network, while the ledger is in everybody’s computer”).

²⁸² *Category: Mining*, BITCOIN (last visited Mar. 31, 2012), <https://en.bitcoin.it/wiki/Category:Mining>.

²⁸³ See *id.*; see also Greenberg, *Crypto Currency*, *supra* note 55, at 40.

²⁸⁴ *About Bitcoin Mining*, WEUSECOINS (last visited Mar. 31, 2012), <http://www.weusecoins.com/mining-guide.php>.

²⁸⁵ *But see* 31 U.S.C. § 5330(a) (2001) (requiring a “person who owns or controls a money transmitting business” to register with the U.S. Treasury “whether or not the business is licensed as a money transmitting business in any State”).

would not apply.²⁸⁶ However, in jurisdictions where money transmission services are required to register with the state, the inquiry would center on the state's definition of money transmitter.²⁸⁷ In most jurisdictions the definition is very broad, and it includes any business which transmits currency or monetary value for a profit by any means.²⁸⁸ Thus, a bitcoin miner could fall within the definition of a money transmitter service under state law.

As the federal rules point out, whether an operation is a money transmitter service "is a matter of facts and circumstances."²⁸⁹ The argument could be made that miners are not directly transferring payments for specific individuals, or that they are in charge of an operation that transfers funds for others like a traditional money transmitter service. Further, the actions taken by miners do not violate the spirit of the statute, which seeks to stem the use of money transfers for unlawful enterprises.²⁹⁰ While many of the activities undertaken with bitcoins are illegal,²⁹¹ bitcoin miners and users do not have the identity information of the other bitcoin users that a traditional money transmission business could provide.²⁹² Any information

²⁸⁶ See *United States v. Talebnejad*, 460 F.3d 563, 571 (4th Cir. 2006) (agreeing that if a money transmission business is not required to be licensed under state law, then there is no §1960 liability).

²⁸⁷ See 18 U.S.C.A. § 1960(b)(1)(A) (2006); see also *U.S. v. Dimitrov*, 546 F.3d 409, 411 (7th Cir. 2008) (finding §1960 liability since the operation of an unlicensed money transmission business is a felony under Illinois law).

²⁸⁸ See, e.g., FLA. STAT. § 560.103 (2002) (defining "Money Transmitter" as any "entity qualified to do business in [Florida] which receives currency, monetary value, or payment instruments for the purpose of transmitting the same by any means . . . that facilitate such transfer within this country, or to or from this country"); N.C. GEN. STAT. § 53-208.2(a)(11) (2005) (defining "Monetary transmission" as "[t]he act of engaging in the business of receiving money or monetary value for transmission within the United States or to locations abroad by any and all means").

²⁸⁹ 31 C.F.R. § 1010.100(ff)(5)(ii) (2010).

²⁹⁰ See *U.S. v. Velastegui*, 199 F.3d 590, 593 (2d Cir. 1999) (explaining that §1960 was passed to limit the use of money transmission business in unlawful purposes).

²⁹¹ Chen, *Drugs*, *supra* note 105.

²⁹² See, e.g., Kim Zetter, *Bullion and Bandits: The Improbable Rise and Fall of E-Gold*, WIRED (June 9, 2009 12:00 AM), <http://www.wired.com/threatlevel/2009/06/e-gold/all/1> (describing the federal criminal case against E-Gold, a digital currency backed by gold and silver, and explaining the owner of the company "had uncovered a constellation of shady accounts doing business with one another"). See *supra* notes 98-100 and

that miners have or could provide to federal authorities is already publicly available on the bitcoin ledger.²⁹³ The information that law enforcement authorities actually desire—the identity and location of those sending and receiving funds—is not available to the miners. It is therefore unlikely that bitcoin miners would be classified, or at the very least pursued, as money transmitters by federal authorities.

3. Regulation E

Since the bitcoin software electronically transfers bitcoins from user to user over the internet, another potential opportunity to regulate it under existing law is through the Electronic Funds Transfer Act²⁹⁴ (EFTA) and the Federal Reserve’s rule under Regulation E.²⁹⁵ The intent of the EFTA and Regulation E, however, was to protect consumers’ rights against financial institutions in electronic transactions.²⁹⁶ Therefore, in order to fall within the regulatory framework of Regulation E, bitcoin must be a financial institution²⁹⁷ and conduct electronic funds transfers.²⁹⁸

Bitcoin software would not qualify as a financial institution under Regulation E since it is not a legally recognizable entity.²⁹⁹ While the software does provide “an access device . . . to provide electronic fund transfer services,”³⁰⁰

accompanying text.

²⁹³ See *supra* notes 23-40 and accompanying text for a discussion on the publicly available information on the bitcoin peer-to-peer network.

²⁹⁴ Electronic Fund Transfer Act, 15 U.S.C. §§1601–1693 (2006).

²⁹⁵ 12 C.F.R. §§ 205.1–205.20 (2010).

²⁹⁶ *Shawmut Worcester Cnty. Bank v. First Am. Bank & Trust*, 731 F. Supp. 57, 61 (D. Mass. 1990) (explaining that “the Transfer Act was primarily created for the especial benefit of consumers” to “provid[e] a framework of law regulating the rights of consumers as against financial institutions in electronic funds transfers”).

²⁹⁷ See 12 C.F.R. § 205.2(i) (describing financial institution as “a bank, savings association, credit union, or any other person that directly or indirectly holds an account belonging to a consumer, or that issues an access device and agrees with a consumer to provide electronic fund transfer services”).

²⁹⁸ See 12 C.F.R. § 205.3(b) (defining an “electronic fund transfer” as “any transfer of funds that is initiated through an electronic terminal, telephone, computer, or magnetic tape for purpose of ordering, instructing, or authorizing a financial institution to debit or credit an account”).

²⁹⁹ See 12 C.F.R. § 205.3(b).

³⁰⁰ 12 C.F.R. § 205.2(i). The bitcoin program itself is arguably an access

neither it nor the bitcoin user “directly or indirectly hold an account belonging to a consumer.”³⁰¹ Instead, bitcoins are actually stored either on the user’s personal computer or in an online wallet.³⁰² Storing bitcoins on a personal computer is functionally equivalent to keeping cash in a wallet or a personal safe.³⁰³ The storage of bitcoins in an online wallet, however, might constitute a person—in this case the owner of the website—indirectly belonging to a consumer.³⁰⁴ Therefore, the bitcoin software would not qualify as a financial institution under Regulation E, whereas a digital wallet company may.

The second component necessary under Regulation E is to actually conduct an electronic funds transfer.³⁰⁵ The bitcoin software is executing electronic transfers in a pure sense, but since the software does not “order, instruct, or authorize a financial institution” to do anything, its activity does fall within the regulatory definition of an electronic funds transfer.³⁰⁶ The same can be said for the digital wallet companies. They are not actually initiating any sort of transfer activity but instead the transfers are initiated by the owners of the accounts. Even if it is argued that digital wallet companies are financial institutions and the bitcoin network was executing electronic transfers, both entities would fail to satisfy both requirements under the rules.

4. Securities Laws

Since there is difficulty using banking and financial institution laws in preventing the use of bitcoin, another possible option is the application of securities and investment provisions. The first option could be to classify bitcoins as a security and make its exchange subject to federal securities law.³⁰⁷ Under the *Howey* test, an investment contract classified as a security turns on “whether the scheme involves an investment of money in a

device since it provides a public-key with which to send and receive bitcoins.

³⁰¹ *Id.*; see also 15 U.S.C. § 1693a.

³⁰² J.P., *supra* note 24.

³⁰³ See *supra* notes 264-65 and accompanying text for a discussion on the mechanism of storing bitcoins on a personal computer.

³⁰⁴ See *supra* notes 87-89 and accompanying text for a discussion on storing bitcoins with an online wallet company.

³⁰⁵ See *supra* note 298.

³⁰⁶ 15 U.S.C. § 1693(a)(66) (2006); see also 12 C.F.R. § 205.3(b) (2010).

³⁰⁷ See *supra* note 217 and accompanying text for a discussion on the role of the Securities and Exchange Commission in regulating securities.

common enterprise with profits to come solely from the efforts of others.”³⁰⁸ Since bitcoin itself is not a common enterprise like a company or business venture,³⁰⁹ courts would probably not view their purchase as an investment contract. Further, unlike stocks or other investment contracts, bitcoins can be used to make purchases freely online without the need to sell them for currency.

However, the *Howey* test is not the sole test to be used in the determination of an instrument as a security. The Supreme Court in *Reves v. Ernst & Young*³¹⁰ provided that courts should apply a “family resemblance” test.³¹¹ Under the *Reves* family resemblance test, a note is presumptively declared to be a security unless it bears a strong resemblance “to one of the enumerated categories of instruments.”³¹² The four enumerated categories for the evaluation of instruments include: (1) the motivations of a reasonable seller and buyer; (2) the instrument’s distribution and whether it is commonly traded for speculation or investment; (3) whether the investing public would consider the instrument a security; and (4) if there are mitigating factors to reduce the instrument’s risk.³¹³

Applying these factors, bitcoin could probably be classified as a note since it can be exchanged and redeemed for cash. Thus, the question would be whether it would qualify as a security under the *Reves* family resemblance test. Under the motivation factor, a court could view the motivations of the average buyer and seller of bitcoins variably. As previously mentioned, bitcoins can be used for online purchases, but they have also been used as an investment opportunity.³¹⁴ But as the Supreme Court explained in describing the first prong in *Reves*, “[i]f the note is exchanged to facilitate the purchase and sale of minor asset or consumer good, to correct for the seller’s cash-flow

³⁰⁸ SEC v. W. J. Howey Co., 328 U.S. 293, 301 (1946).

³⁰⁹ *Id.* at 300 (defining a “business venture” as an opportunity where “investors provide the capital and share in the earnings and profits [and] the promoters manage, control and operate the enterprise”). See *supra* notes 119 and 255 and accompanying text for a discussion of bitcoin’s legal status.

³¹⁰ 494 U.S. 56 (1990).

³¹¹ *Id.* at 67. See *supra* notes 220-27 and accompanying text for a further discussion on the *Reves* family resemblance test.

³¹² *Id.*

³¹³ *Id.* at 66-67.

³¹⁴ See Krugman, *supra* note 111 (explaining that many people have been purchasing bitcoins as an investment similar to gold).

difficulties, or to advance some other commercial or consumer purpose . . . the note is less sensibly described as a ‘security.’”³¹⁵ Since this is the primary purpose of the bitcoin technology (at least according to its creator),³¹⁶ a court would probably view bitcoin notes as a means of exchange. Further, the investing public probably would not consider bitcoins to be a security,³¹⁷ thus arguing against security treatment.

Some attributes of bitcoins under the *Reves* test would argue in favor of treating them as securities. First, there are no mitigating factors in the purchase of bitcoins that would reduce their risk, like in the purchase of whole life insurance, because bitcoins are very volatile and can gain and lose value very quickly.³¹⁸ Second, the distribution system of bitcoins is one in which anyone can purchase them, which is similar to a security which is often purchased on online exchanges. Despite these factors, a court should still classify bitcoins as a note that is not a security.³¹⁹

One could argue that bitcoins might be classified as a security under federal law using the *Howey* test. The argument follows that bitcoins could be considered a security because many individuals purchase bitcoins on exchanges in expectation of profits. There is a common enterprise of software developers who maintain bitcoin’s value, and any returns derived from bitcoins come from the efforts of others (namely the increased demand for their use). While this argument could be made in a court, most courts will probably rely upon Justice Warren’s interpretation of a security to disregard form in favor of substance and economic

³¹⁵ *Reves*, 494 U.S. at 66.

³¹⁶ See Dai, *supra* note 18, at ¶ 13 (proposing creation of an online currency to provide “a medium of exchange and a method of enforcing contracts”); see also Nakamoto, *supra* note 22, at 2 (describing the means of transactions on the bitcoin network).

³¹⁷ See Krugman, *supra* note 111 (comparing bitcoins to gold and describing it as a monetary system).

³¹⁸ See Lyons, *supra* note 69, at 32 (detailing the price of a single bitcoin changing from its original price of “less than a dollar, but in recent months the price climbed to \$8, then to \$20, then above \$30, before falling back to \$18”).

³¹⁹ Accord Grinberg, *supra* note 268, at 194–96 (concluding that bitcoins would not be classified as securities); cf. Kerry Lynn Macintosh, *How to Encourage Global Electronic Commerce: The Case for Private Currencies on the Internet*, 11 HARV. J.L. & TECH. 733, 746 n.49 (1998) (concluding that digital currencies would not be classified as currencies).

reality.³²⁰ It is true that bitcoins are used for investment, but at its heart, bitcoin is a means of exchange designed for use on the Internet throughout the world. This is certainly the economic reality of the technology behind bitcoins and one that would likely prevail in a judicial challenge.

As bitcoins are designed to be a form of online currency, it would be best to treat them as such in the securities world. Foreign currencies are generally not considered to be a security,³²¹ and there is clear precedent providing an exception for currency trading under the definition of security.³²² Bitcoin is not created or maintained by a foreign government,³²³ but it does act like a national currency by facilitating exchange and serving as a means of value in the marketplace. Using the guidance from Justice Warren, the substance and reality of bitcoins are that they are essentially foreign currency and thus should be treated as such by the courts—allowing their free exchange in the marketplace and only requiring regulation for retail foreign exchange dealers.

In his evaluation of bitcoins, Reuben Grinberg concludes that while bitcoin may function as a currency, it is unlike the commercial paper that Congress sought to exempt in the Securities Acts.³²⁴ Grinberg argues that Congress in its definition of currency did not mean any medium of exchange but instead only exempted money that is accepted in a geographic or political area.³²⁵ Despite this argument, a court should still examine bitcoins as a foreign currency. It does meet the literal definition of currency and functions much in the same way that any other foreign currency from a volatile nation might function—drastically fluctuating and subject to deep losses in value.³²⁶

³²⁰ See, e.g., *Tcherepnin v. Knight*, 389 U.S. 332, 336 (1967) (citing *SEC v. W. J. Howey Co.*, 328 U.S. 293, 298 (1946)).

³²¹ Lowenfels & Bromberg, *supra* note 244, at 483.

³²² See *Reves v. Ernst & Young*, 494 U.S. 56, 73–74 (1990) (Stevens, J., concurring) (providing “notes are securities notwithstanding the statute’s exclusion for currency”).

³²³ See *Currency*, BLACK’S LAW DICTIONARY (9th ed. 2009) (defining national currency as “[c]urrency approved by a national government and placed in circulation as a medium of exchange”).

³²⁴ Grinberg, *supra* note 268, at 203. Grinberg explains that the commercial paper that Congress did seek to exempt was paper issued as a short term debt since this type of note did not pose a risk for the investing public since it is very safe and liquid. *Id.* at 202–03.

³²⁵ *Id.* at 203–04.

³²⁶ For instance, trading bitcoins would be better than Zimbabwean

Furthermore, simply trading bitcoins online does not subject the public to great risk since the bitcoins themselves are secure and inherently liquid.

Another concern is the treatment of bitcoins as a commodity. While the CFTC has jurisdiction over commodity sales for future delivery,³²⁷ the sale and exchange of bitcoin would likely not fall within these requirements. During the exchange of bitcoins, the transfer from one user to another is not instantaneous—it requires the system to process the transaction on the public server. But, the clearing time is still only a matter of minutes.³²⁸ Thus, the delivery of bitcoins between users is nearly instantaneous and well outside of the requirements for future delivery.³²⁹ Even so, commodities transactions in a foreign currency are also not included under the CFTC’s commodity regulation.³³⁰ While bitcoin is not technically foreign currency, it functions in the same manner, and a court is likely to view their exchange as such.³³¹

After consideration of these provisions under federal law and regulations, bitcoin appears to fall outside of their scope. One explanation for this fact is that bitcoins were not in existence

dollars, which have wildly fluctuated. Compare Sebastien Berger, *Zimbabwe Hyperinflation ‘Will Set World Record Within Six Weeks’*, THE TELEGRAPH (Nov. 13, 2008), <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/zimbabwe/3453540/Zimbabwe-hyperinflation-will-set-world-record-within-six-weeks.html> (describing Zimbabwe’s annual inflation rate at “516 quintillion per cent”), with Mike Pienciak, *Following a 1,000,000% Gain, a Slow-Motion Crash*, THE MOTLEY FOOL (Nov. 1, 2011), <http://www.fool.com/investing/general/2011/11/01/following-a-1000000-gain-a-slow-motion-crash.aspx> (describing bitcoin’s appreciation and loss since 2010).

³²⁷ 7 U.S.C. § 2(a)(1)(A) (2006).

³²⁸ See Joel Falconer, *Bitcoin, the Peer-to-Peer Currency that Hopes to Change the World*, INSIDER (June 5, 2011), <http://thenextweb.com/insider/2011/06/05/bitcoin-the-peer-to-peer-currency-that-hopes-to-change-the-world/> (explaining that bitcoin transactions can sometimes take five to ten minutes to clear).

³²⁹ See 7 U.S.C. § 2(c)(2)(C)(i)(II) (providing a transaction is not within CFTC’s scope if actual delivery is within days or there is an obligation for delivery between buyer and seller).

³³⁰ 7 U.S.C. § 2(c)(1).

³³¹ Should parties enter into agreements resembling the type of currency derivative or commodity futures contracts involving bitcoins, then the CFTC regulations would certainly apply. This Comment is only positing that the traditional exchange of bitcoins between the average users would fall outside of the CFTC’s purview.

when the laws that could limit their application were passed. Alternatively, it could also be due to the design of bitcoin, which sought to avoid the provisions that brought down analogous alternative currencies.³³² Nonetheless, it appears that bitcoin falls outside the purview of existing laws and regulations that might outlaw its use.³³³

B. Laws Governing Bitcoin Use: Applicable Provisions

As Part III.A notes, there are many provisions that could potentially apply to the average user or miner of bitcoins. These provisions, however, employ tenuous arguments to prohibit or regulate bitcoin use under current law in manners that were not foreseen by the legislature.³³⁴ Absent any legal provisions that would inhibit the use of bitcoins in the marketplace, this Part contemplates the provisions and examples that facilitate its use and provide bitcoin users authority under law. Finally, given their structural and function similarity, this Comment argues that bitcoins should be treated as local or community currencies under the law.

1. State Contract Law's Applicability to Bitcoins

The treatment of a contract using bitcoins under state law obviously depends on the treatment of bitcoins by the courts. Nonetheless, either by treating bitcoins as currency or as property, contracts executed using bitcoins should be upheld. If a contract executed using bitcoins was challenged under state law and the court chose to treat bitcoins like a foreign currency, the UCC provides that the medium of payment (dollars or bitcoins) is determined by the contract itself.³³⁵ In contracts where the

³³² See *supra* Part II.D.2.a for a discussion on the Liberty Dollar saga. See *supra* note 295 and *infra* note 376 for a discussion on E-Gold.

³³³ But Grinberg points out that the Stamps Payment Act of 1862 could outlaw bitcoin use for payments below one dollar. Grinberg, *supra* note 268, at 183. He ultimately concludes that while there is a legitimate argument for the Act's applicability, prosecutors are unlikely to rely on it to limit the use of bitcoins. *Id.* at 190–91.

³³⁴ The lack of legislative intent is mostly due to the inability to conceptualize the new technology that bitcoins employ. Further, should Congress or state legislatures choose, the provisions explored in Part III.A, *supra*, could be modified to specifically include cybercurrencies like bitcoin.

³³⁵ See U.C.C. § 3-107 (2011) (“Unless the instrument otherwise provides,

medium of payment is not specified but payment is denominated in bitcoins, the purchaser would have the option of either paying in bitcoins or in the equivalent amount of dollars, provided they are in the United States.³³⁶ Likewise, if the contract specifically provides that the medium of payment is to be in bitcoins, then the purchase must present the agreed-upon amount of bitcoins in order to fulfill the contract.³³⁷

If a court instead chose to treat bitcoins used in a contract as property instead of a medium of payment, the contract would still be recognized as valid. As barter contracts are still covered under the UCC,³³⁸ each party would simply be considered a seller of his or her goods.³³⁹ Most contracts involving bitcoins would likely not be challenged out of a concern of bitcoin's validity. Contracts involving the sale of goods from a merchant will not be created until the purchaser has provided payment acceptable to the seller.³⁴⁰ Thus, provisions covering mediums of exchange are moot in many instances since the creation of the contract will not occur until the payment in bitcoins is made.³⁴¹

2. Local Currency as the Ideal Model

The most appropriate type of instrument analogous to bitcoins is alternative currencies.³⁴² While local currencies are simply any medium of exchange that is not a national currency,³⁴³ a community currency provides the flexibility of paper denominations to allow participants to make exchanges with multiple parties.³⁴⁴ Like bitcoins, the denominations in a community currency system are issued by a nongovernmental

an instrument that states the amount payable in foreign money may be paid in the foreign money or in an equivalent amount in dollars . . .”).

³³⁶ *Id.*

³³⁷ *Id.*

³³⁸ RICHARD A. LORD, WILLISTON ON CONTRACTS § 26:5 (4th ed. 1989).

³³⁹ U.C.C. § 2-304.

³⁴⁰ *But see* U.C.C. § 2-204 (“A contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract”).

³⁴¹ *Id.*

³⁴² *See supra* Part II.D.2 and accompanying text for a discussion of alternative currencies.

³⁴³ Solomon, *Reflections*, *supra* note 185, at 1230.

³⁴⁴ *See* Solomon, *Local Currency*, *supra* note 188, at 74 (illustrating the flexibility of the Ithaca HOURS bartering system).

group and have monetary value accepted for goods and services within the community.³⁴⁵ The most notable differences between community currencies and bitcoins are that bitcoins do not provide paper denominations but digital ones, and community currencies are generally confined to a specific geographic locality whereas bitcoins are only limited to areas with Internet access—which is increasingly becoming the entire world.³⁴⁶ However, these differences are not defeating, since the substantial purpose of bitcoin—serving as a medium of exchange within a community—is the same as the purpose of community currencies. Further, there is nothing suggesting that community currencies must be so limited.

In order for a community currency to be outlawed under the U.S. Constitution, it must be (1) coined money³⁴⁷ or bills of credit,³⁴⁸ and (2) issued by a state or local municipality.³⁴⁹ Since bitcoins are not physical coins they certainly would not fall within the definition of coined money since they are not “metallic substances . . . convenient for circulation.”³⁵⁰ Despite their lack of

³⁴⁵ See LIETAER, *supra* note 186, at 187–89 (providing examples of local currencies); *Id.* at 206 (explaining that complimentary currencies function in parallel with national currencies).

³⁴⁶ See Internet Usage Statistics News and World Population Stats, INTERNET WORLD STATS (last visited Mar. 31, 2012), <http://www.internetworldstats.com/stats.htm> (providing 2011 world internet usage is on average 30.2% but usage in North America, Australia/Oceania, and Europe averages above 50%).

³⁴⁷ See *The Legal Tender Cases*, 110 U.S. 421, 462 (1884) (Field, J., dissenting) (“The meaning of the terms ‘to coin money’ is . . . to mould metallic substances into forms convenient for circulation and to stamp them with the impress of the government authority indicating their value with reference to the unit of value established by law”).

³⁴⁸ See *Craig v. State of Mo.*, 29 U.S. 410, 432 (1830) (Thompson, dissenting) (defining bills of credit as “paper intended to circulate through the community for its ordinary purposes, as money, [and] redeemable at a future day”); *accord* *Briscoe v. Bank of Commonwealth of Kent.*, 36 U.S. 257, 258–59 (1837) (“To constitute a bill of credit, within the constitution . . . it must be a paper which circulates on [credit] . . . and so received and used in the ordinary business of life”).

³⁴⁹ See *Craig*, 29 U.S. at 432 (stating the clause in the Constitution providing “that no state shall emit bills of credit . . . comprehends the emission of any paper medium, by a state government, for the purpose of common circulation.”); *see also* *Mayor of Nashville v. Ray*, 86 U.S. 468, 475 (1873) (explaining that the constitutional bar on bills of credit extend to local jurisdictions and municipal corporations).

³⁵⁰ *The Legal Tender Cases*, 110 U.S. at 462.

physical manifestation, bitcoins are not “impress[ed] of the government authority” with a standard unit of value.³⁵¹

There is an argument, however, that bitcoins could function as bills of credit. While they are not composed of paper, bitcoins do “circulate through the community . . . as money.”³⁵² A court could easily modify this definition of a bill of credit to expand the paper requirement and account for advancements in technology. Like the Ithaca HOUR notes, bitcoins have an established community, albeit online, where they can be used to pay individuals for their services or, more commonly, to purchase goods from businesses.³⁵³ By their circulation in the community as money, bitcoins could fulfill the functional equivalent of a bill of credit under the law.

Even though bitcoins could facially be considered bills of credit, their issuance would still not be prohibited by the U.S. Constitution, as bitcoin is not publicly backed.³⁵⁴ Bitcoins are not issued by any state or municipality but instead are privately created by a software program and supported by an online peer-to-peer network. Because the Constitution does not prevent private parties from issuing bills of credit,³⁵⁵ bitcoins would not be outlawed even if a court adopted a liberal version of bills of credit.³⁵⁶

Furthermore, an argument that bitcoins function like the Liberty Dollar coins and should therefore be outlawed also does not hold up. Liberty Dollars were not outlawed because they operated as a private currency. Von Nothaus, the creator of Liberty Dollars, was convicted “of making coins similar to U.S. money” and trying to pass off the coins as legal money in violation of federal statutes.³⁵⁷ He was not convicted for developing a new form of monetary exchange, but was instead

³⁵¹ *Id.*

³⁵² *Craig*, 29 U.S. at 415.

³⁵³ See Falconer, *supra* note 329 (referring to the group of bitcoin users as the bitcoin community).

³⁵⁴ See *Craig*, 29 U.S. at 432; *Mayor of Nashville*, 86 U.S. at 475.

³⁵⁵ *Briscoe v. Bank of Commonwealth of Kent.*, 36 U.S. 257, 348 (1837) (Story, J., dissenting).

³⁵⁶ As previously mentioned, there could be concerns of privately issued bills of credit under state laws. Many of these provisions focus on the payment of employees in company scrip, but most are focused on privately issued *paper* currency. Solomon, *Local Currency*, *supra* note 188, at 85–86. Both of these considerations set bitcoin outside of a state prohibition.

³⁵⁷ Press Release, Federal Bureau of Investigation, *supra* note 208.

found guilty of counterfeiting and fraud.³⁵⁸

C. Policy Considerations Counsel Against Regulation

Current law really does not envision a type of technology like bitcoin, which leaves it in a legal gray area. Because people like Senator Schumer view bitcoins as being used for illegal activity and circumventing the traditional financial channels,³⁵⁹ there is likely some interest in trying to limit or ban bitcoins. Policymakers, however, should resist the impulse to ban bitcoins, if not for any other reason than the fact that a prohibition on bitcoins would be nearly impossible to accomplish. Furthermore, a prohibition would not stop the underlying criminal activity performed by bitcoin users.³⁶⁰ Instead, bitcoins provide much of the information necessary for prosecutors to investigate criminal activity. While bitcoin use could potentially be stopped through an excessive crackdown on users, another digital currency system is likely to develop online to fill the void that bitcoin occupied.³⁶¹ Therefore, this Comment argues that policymakers should allow bitcoins and similar cybercurrencies to continue in order for their full market capabilities to be realized.

1. Outlawing Bitcoins

Since bitcoin is not run by a single company or entity, it is not possible to shut down the technology either by injunction or other action. The problem is that “Bitcoin is an open-source

³⁵⁸ *Id.* In addition to counterfeiting, any other practice that generally involves the defrauding of consumers as an unfair business practice would also be illegal under federal and state laws. See Neil A. Helfman, *Proof of Statutory Unfair Business Practices*, 36 AM. JUR. PROOF OF FACTS 3d 221 (1996) (updated June 2011) (discussing updated security practices).

³⁵⁹ Masnick, *supra* note 117 (quoting Senator Schumer); see also Lyons, *supra* note 69, at 32 (explaining Senator Schumer’s concerns with bitcoin and the Silk Road site).

³⁶⁰ See, *infra* Part II.C.1 for a discussion on the effectiveness of a law trying to ban the use of bitcoins.

³⁶¹ Trying to shut down bitcoin would likely be very similar to the efforts done to stop online file-sharing programs. For instance when Napster was shut down by a court order in 2001, many new file sharing programs like Limewire and KaZaA emerged that were more difficult to control and a greater threat to security. M. Eric Johnson, et al., *The Evolution of the Peer-to-Peer File Sharing Industry and the Security Risks for Users*, 41 HAWAII INT’L CONF. ON SYS. SCI. at 2 (2008).

project” and given the nature of the technology “there is no Bitcoin company to raid, subpoena, or shut down.”³⁶² Further, even if the bitcoin website and the source code information and underlying services were removed, bitcoin itself would be unaffected.³⁶³ This is because the database that supports bitcoins exists “only in the distributed peer-to-peer network created by its users,” and “taking down any of the individual computers that make up the peer-to-peer system would have little effect on the rest of the network.”³⁶⁴

If there is no way to eliminate bitcoin, then one way of stopping the use and transfer of bitcoins might to outlaw the activity itself. If Congress chose, it could single out bitcoin by making interstate transactions using bitcoin invalid.³⁶⁵ Congress could even outlaw the use and distribution of any peer-to-peer electronic currency. Any option between these two extremes would send the clear message that bitcoins are illegal to use. The more extreme option—outlawing bitcoin use and distribution—would certainly damper the acceptance of bitcoins, especially in the United States. Congressional prohibition, however, will unlikely stop bitcoin usage since the bitcoin network can still operate without users in the United States. Additionally, use in America would not significantly fall as one’s identity on the bitcoin network is fairly untraceable.³⁶⁶

Similar to outlawing the use of bitcoins, federal authorities could try to find under existing law that bitcoin users are contributing to a criminal network. As one scholar pointed out, “an argument can be made that 1) the predominant use of the Bitcoin network is the trafficking of illicit goods and services, and 2) running the software should therefore carry vicarious or

³⁶² Brito, *Online Cash*, *supra* note 99.

³⁶³ *Id.*

³⁶⁴ *Id.*

³⁶⁵ *But see supra* note 361 and accompanying text for a discussion on the implications of trying to outlaw or shut down bitcoin.

³⁶⁶ Once again, a bitcoin prohibition is analogous to laws concerning online file sharing. Just because the distribution of copyright-protected material on a file-sharing website is illegal does not mean that the activity does not continue. See Lauren Indvik, *U.S. Internet Piracy Is on the Decline*, MASHABLE.COM (Mar. 25, 2011), <http://mashable.com/2011/03/25/internet-music-piracy-study/> (providing survey data indicating that nine percent of the U.S. internet population, or sixteen million people, use peer-to-peer file-sharing services to download music).

contributory liability for those offenses.”³⁶⁷ This would be analogous to the arguments used against file-sharing sites that a person who distributes a device with a clear objective of circumventing the law is liable for the acts of the third parties.³⁶⁸ While this crackdown method would probably fare similarly to prohibiting users from using bitcoins, it ignores the prospect that another bitcoin-like technology could be developed that does not have the inherent advantages bitcoin possesses in assisting law enforcement.³⁶⁹ A new bitcoin-like system could be solely maintained by foreign users and in a manner that does not disclose all transactions publicly.³⁷⁰

2. Better Ways to Prevent Criminal Activity Involving Bitcoin

One of the most prevalent criticisms of bitcoins is that the cybercurrency is used mainly as a means to avoid detection of criminal activity and not as a commercial exchange for legal goods and services.³⁷¹ Despite the fact that there are no real statistics on criminal activity associated with bitcoins, there are anecdotal examples that bitcoins are used for less-than-honorable

³⁶⁷ Jerry Brito, *Bitcoin, Intermediaries, and Information Control*, THE TECHNOLOGY LIBERATION FRONT (Apr. 20, 2011) [hereinafter Brito, *Bitcoin, Intermediaries*], <http://techliberation.com/2011/04/20/bitcoin-intermediaries-and-information-control/>.

³⁶⁸ See, e.g., *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 936–37 (2005) (“[O]ne who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties”).

³⁶⁹ While there are no other known currencies employing the exact bitcoin technology, there are currently other digital currencies in use such as Ven, which employs a sort of digital account book for its members. Nin-Hai Tseng, *The Dollar Alternatives*, CNN MONEY, (July 21 2010, 1:00 PM), http://money.cnn.com/galleries/2010/fortune/1007/gallery.Alternate_Currency.fortune/index.html (explaining why gold is not used as a direct means of exchange).

³⁷⁰ Comparing bitcoin with online file-sharing sites, the Pirate Bay—a Swedish site leading in the distribution of copyright-infringing material—has been in continued existence for more than five years due in part to Sweden’s laws and enforcement practices. Tara Touloumis, *Buccaneers and Bucks from the Internet: Pirate Bay and the Entertainment Industry*, 19 SETON HALL J. SPORTS & ENT. L. 253, 257–58 (2009).

³⁷¹ See Winder, *supra* note 105 (explaining that online criminals use bitcoins as “untraceable cash-in-hand payments”).

pursuits. Probably the most public example is the Silk Road site that provided mail-order illegal narcotics and firearms.³⁷² However, given bitcoin's ability to provide a high degree of anonymity in financial transactions worldwide, it is likely that it is used in other criminal activities.³⁷³ Nonetheless, in order to prevent its total prohibition, bitcoin cannot be used solely for illegal activity if it is to survive.³⁷⁴

Bitcoin's design provides a useful opportunity for law enforcement to investigate criminal activity while still allowing the benefits of bitcoin to flourish unabated. One commenter explained that "every [bitcoin] transaction is written to a globally public log, and the lineage of each coin is fully traceable from transaction to transaction."³⁷⁵ This only means that a person can trace transactions from account to account, but the identity of the account holder is not disclosed.³⁷⁶ With this data, law enforcement, or anyone, "could identify just one person on the network and ask them (or coerce them) to identify the persons from whom they received payments."³⁷⁷ Afterwards, they could

³⁷² See Chen, *Drugs*, *supra* note 105.

³⁷³ See Winder, *supra* note 105; *cf.* Zetter, *supra* note 293 (describing the rise and fall of E-Gold, a digital currency backed by gold and silver and explaining "[w]hen authorities monitored the criminals' communications, they discovered that E-Gold was among [their] preferred money-transfer methods, because the system allowed users to open accounts and transfer funds anonymously anywhere in the world").

³⁷⁴ See generally Jonathan Zittrain, *A History of Online Gatekeeping*, 19 HARV. J.L. & TECH. 253 (2006).

³⁷⁵ Katherine Mangu-Ward, *Buy Illegal Drugs Anonymously on the Internet. Finally. UPDATED: Too Good to be True*, REASON (June 1, 2011), <http://reason.com/blog/2011/06/01/buy-illegal-drugs-anonymously> (quoting and publishing an email from Jeff Garzik of the Bitcoin "core dev team"); see also Chen, *Drugs*, *supra* note 105 (explaining that since bitcoin records are publically logged, "law enforcement could use sophisticated network analysis techniques to parse the transaction flow and track down individual Bitcoin users" (interviewing Jeff Garzik, a member of the Bitcoin core development team)); Falconer, *supra* note 327 ("Because every Bitcoin transaction is publicly broadcast across the network, it only takes one piece of personally identifying information in connection with one transaction from your computer to attach all other transactions you've made from that client with your identity").

³⁷⁶ Jerry Brito, *Bitcoin, Silk Road, and Lulzsec oh my!*, THE TECHNOLOGY LIBERATION FRONT (June 3, 2011) [hereinafter Brito, *Bitcoin, Silk Road*], <http://techliberation.com/2011/06/03/bitcoin-silk-road-and-lulzsec-oh-my/>.

³⁷⁷ *Id.*

simply repeat the process, tracing the suspect bitcoins to their original source.³⁷⁸ This investigation, along with statistical analysis techniques, could provide law enforcement officials with sufficient information to catch criminals.³⁷⁹

Coercing people to provide the identities of other bitcoins users is probably unlikely and very time consuming. “More likely, a bitcoin user will be revealed through identifying information inadvertently revealed in the course of a transaction.”³⁸⁰ Since there is only a limited market for which to purchase goods using bitcoins, most people—especially those that are involved in a crime syndicate—are going to need to change their bitcoins into a government issued currency. This choke point along with the public database provides an opportunity to track and locate those using bitcoins for illicit activity.³⁸¹ This option is preferable to any attempt to broadly outlaw bitcoin use or prosecute those who choose to execute and facilitate illegal bitcoin transactions. First, because of the publicly available information inherent to the bitcoin system, it is likely much more effective in tracking criminal activity than a system lacking such information. Secondly, measured investigations would go towards stopping illegal activity without punishing those who use the technology in a perfectly legal manner.

3. Benefits of a Free, Open Currency Market Counsel Against Regulation

The final reason to resist prohibiting or even inhibiting bitcoin lies in the fundamental concept of the Internet itself. Allowing bitcoin to operate unfettered by substantial regulation allows it to contribute towards job creation, economic growth, and opportunity.³⁸² By letting the market determine whether or

³⁷⁸ *Id.*

³⁷⁹ Mangu-Ward, *supra* note 375 (quoting an email from Jeff Garzik of the Bitcoin “core dev team”) (“Attempting major illicit transactions with bitcoin, given existing statistical analysis techniques deployed in the field by law enforcement, is pretty damned dumb”).

³⁸⁰ Brito, *Bitcoin, Silk Road*, *supra* note 376.

³⁸¹ Since there have not been any prosecutions in the record involving the use of bitcoins for nefarious activities, there is a debate as to how secure bitcoin actually is. *See* Winder, *supra* note 106. Financial data analysis tools and investigators are very sophisticated and could provide enough evidence to identify offenders and prosecute their arrest. *See id.*

³⁸² *Cf.* 47 USC § 230(b) (“It is the policy of the United States . . . to

not bitcoin should survive is preferable to federal policy seeking to shut it down. For instance, even though bitcoins have only been in existence for about three years, there are already numerous companies and websites that have started operating as bitcoin servicers or exchanges.³⁸³ There are also businesses that accept bitcoin in addition to government-backed currency as a marketing opportunity.³⁸⁴

In addition to the proven results of bitcoins, the rationale that supported their creation is also still in effect. Bitcoins have drastically reduced the cost of online transactions in a secure, anonymous, and efficient manner.³⁸⁵ Bitcoin has also established that, despite its volatility, there are people who want to participate in a system outside of any government control or influence. Even if bitcoin ultimately fails, there is likely to be more cybercurrencies to either replace it or compete with it.³⁸⁶

promote the continued development of the Internet . . . , to preserve the vibrant and competitive free market that presently exists for the Internet . . . unfettered by Federal or State regulation[, and] to encourage the development of technologies . . . [for those] who use the Internet and other interactive computer services”); Press Release, Executive Office of the President, Office of Management and Budget, Statement of Administration Policy: S.J. Res. 6 – Disapproval of Federal Communications Commission Rule Regulating the Internet and Broadband Industry Practices (Nov. 8, 2011), *available at* http://www.whitehouse.gov/sites/default/files/omb/legislative/sap/112/sapsjr6s_20111108.pdf (arguing an “open Internet is essential to job creation, economic growth, and global competitiveness”). Admittedly, the proliferation of bitcoin might not usher in a golden era of economic growth and prosperity. It can contribute to growth by providing a lower cost of entry and increased liquidity in the marketplace.

³⁸³ See *Trade*, BITCOIN, <https://en.bitcoin.it/wiki/Trade> (last visited Oct. 26, 2012) (listing hundreds of merchants that accept bitcoins in exchange for goods and services).

³⁸⁴ *Id.*

³⁸⁵ Currently, most bitcoin exchanges do not include transaction fees. *Transaction Fees*, BITCOIN, https://en.bitcoin.it/wiki/Transaction_fees (last visited Oct. 26, 2012). But transactions which draw bitcoins from many different addresses thus involving a large amount of data to process usually involve a small transaction fee at about 0.01% to 2% of the transfer depending on the priority of the payment. *Id.* Comparatively, merchants are charged a one to two percent fee on all credit card transactions that is in turn borne by consumers, M.S., *supra* note 93, and PayPal currently charges merchants around three percent per transaction. *PayPal Merchant Fees*, PAYPAL, https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=merchant/merchant_fees (last visited Mar. 31, 2012).

³⁸⁶ Reason TV, *supra* note 252. Currently, there are other people developing cybercurrencies similar to bitcoins including the Ripple Project.

Therefore, the U.S. government should resist any impulse to regulate bitcoin or any other cybercurrencies.

IV. CONCLUSION

Complaints against government control of currency have been present in the United States and in other countries throughout history. While alternative currencies have offered some respite for those who want a choice in their medium of exchange, these have still been controlled by some central authority and have generally been limited to a specific region or area.³⁸⁷ Bitcoin, on the other hand, is the unique confluence of technology and demand allowing it to become a viable, global alternative currency. Functioning much in the same manner as cash, Satoshi Nakamoto's ideas have created over thirty million dollars' worth of bitcoins without the need for a government issuer or a third party transaction network.³⁸⁸

This Comment maintains that the traditional bitcoin users buying and selling goods in a cash-like transaction, as well as bitcoin miners, fall outside of the regulatory provisions under federal banking, money transmission, and securities laws. Instead, bitcoin transactions should be treated as a community currency under the law, receiving full contractual enforcement and being treated as a traditional currency in every other way. Despite genuine concerns relating to bitcoins and criminal activity, this Comment argues against any prohibition by policymakers or judges that encounter bitcoins. Instead, law enforcement should become familiar with the technology, especially since bitcoin provides a public log of every transaction, and use existing tools to investigate and prosecute illegal activity. Trying to prohibit bitcoin or another bitcoin-like currency would only be problematic. On the other hand, allowing bitcoin to flourish, as the law currently provides, can provide limitless

RIPPLE PROJECT, <http://ripple-project.org> (last visited Oct. 26, 2012).

³⁸⁷ One clear exception to this experience would be the use of gold following the rise of state-issued currencies, either based on gold or other metals. Today, however, gold is mostly used as an investment tool rather than an actual medium of exchange between parties. See Nin-Hai Tseng, *supra* note 369 (explaining why gold is not used as a direct means of exchange).

³⁸⁸ Timothy B. Lee, *Bitcoin's Comeback: Should Western Union be Afraid?*, ARS TECHNICA (Dec. 21, 2011), <http://arstechnica.com/tech-policy/news/2011/12/bitcoins-comeback-should-western-union-be-afraid.ars>; see also Part II.A, *supra*.

174

Loyola Consumer Law Review

Vol. 25:1

possibilities in commerce around the globe.