

# I’LL GLADLY TRADE YOU TWO BITS ON TUESDAY FOR A BYTE TODAY: BITCOIN, REGULATING FRAUD IN THE E-ECONOMY OF HACKER-CASH

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## I. INTRODUCTION

Imagine, if you will, two traders meeting in secret. They are on a path only available by a secret route: it's called the Silk Road. While there, the traders negotiate deals that would be illegal under the laws of their homeland. They exchange in secret, eluding authorities by dealing in a private currency not issued by their mother countries. Then they part ways; having bartered for dangerous narcotics and weaponry.

This is neither the stuff of legend nor history. Silk Road is a hidden website not available through traditional Internet search engines.<sup>1</sup> It is not accessible by Uniform Resource Locator (URL), but instead by The Onion Router (TOR).<sup>2</sup> TOR is a free online software package that allows users to traverse the Internet in complete anonymity, without third-party tracking.<sup>3</sup> It does this by constantly changing the Internet Protocol (IP) address of a computer.<sup>4</sup> TOR allows its users to explore the "Deepnet" and visit .onion sites—sites that only host completely anonymous users.<sup>5</sup> Silk Road is best found by using an online directory within the Deepnet,<sup>6</sup> but even locating one of these directories can be difficult.<sup>7</sup>

Silk Road hosts a utopic libertarian drug market for marijuana, cocaine, lysergic acid diethylamide (LSD), heroin, and any number of other drugs.<sup>8</sup> There's a catch: the website trades only in Bitcoin—an electronic currency not backed by any government.<sup>9</sup> This allows both parties to deal anonymously and avoid the leering eyes of law enforcement. Although Silk Road is illegal, the trading currency, Bitcoin, seems to fall in between the cracks of a collection of

1. Adrian Chen, *Underground Website Lets You Buy Any Drug Imaginable*, WIRED (June 1, 2011, 2:25 PM), <http://www.wired.com/threatlevel/2011/06/silkroad/>.

2. *Id.*; *Silk Road: Not Your Father's Amazon.com*, NPR (June 12, 2011, 3:33 PM), <http://www.npr.org/2011/06/12/137138008/silk-road-not-your-fathers-amazon-com> [hereinafter *Silk Road*]. A URL refers to the address of a website and may contain specific file information. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2499 (Philip Babcock Gove ed., 2002).

3. *Tor: Overview*, TOR PROJECT, <https://www.torproject.org/about/overview.html.en> (last visited Mar. 8, 2013).

4. *Id.*

5. Ryan Broderick, *Traveling Down the Silk Road to Buy Drugs With Bitcoins*, MOTHERBOARD (June 24, 2011), <http://www.motherboard.tv/2011/6/24/traveling-down-the-silkroad-to-buy-drugs-with-bitcoins> [hereinafter Broderick, *Silk Road*]. Some have estimated that the Web that is hidden from most users is 500 times larger than the searchable Web. Bin He et al., *Accessing the Deep Web*, COMM. OF THE ACM, May 2007, at 95, available at <http://dl.acm.org/citation.cfm?doi=1230819.1241670>.

6. Broderick, *Silk Road*, *supra* note 5.

7. There is no Google in the Deepnet; traditional ways of searching the surface web—via crawlers, or spiders, which follow hyperlinks to survey the Web—are not effective in the Deepnet, where many of the databases are query-based (seeking a specific command). Alex Wright, *Exploring a 'Deep Web' That Google Can't Grasp*, N.Y. TIMES (Feb. 22, 2009), [http://www.nytimes.com/2009/02/23/technology/internet/23search.html?\\_r=1&th&emc=th](http://www.nytimes.com/2009/02/23/technology/internet/23search.html?_r=1&th&emc=th).

8. *Silk Road*, *supra* note 2. Silk Road has about a thousand items available, most of them are drugs. See Broderick, *Silk Road*, *supra* note 5 (describing how easy it was to purchase drugs off of the Silk Road). It rakes in about \$1.9 million per month. *Monetarists Anonymous*, ECONOMIST (Sept. 29, 2012), <http://www.economist.com/node/21563752>.

9. Broderick, *Silk Road*, *supra* note 5. Bitcoin is not the first, nor only, currency gone unbacked by a government. As commentator Reuben Grinberg notes, Bitcoin shares that quality with the Iraqi Swiss Dinar. Reuben Grinberg, *Bitcoin: An Innovative Alternative to Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 159, 174 (2012).

legal frameworks.

This Note will argue that Bitcoin should not be strictly outlawed. However, as a matter of policy, Bitcoin, and any future electronic, independent currency should be regulated and fall within the purview of the Securities Acts. Part II of this Note will address the background of Bitcoin and the existing statutes that can be used to regulate electronic currency. Part III will provide an analysis of the real and imagined ramifications of Bitcoin and explore the policy implications of using existing statutes to hamper criminal uses for Bitcoin. Part IV will provide recommendations on how to regulate Bitcoin—balancing the personal commercial rights of the individual with the government’s need to enforce crimes against fraud and the drug trade. This Note briefly concludes in Part V.

## II. BACKGROUND

Before exploring policy matters, it is important to understand what Bitcoin is and why it is relevant and to survey the laws that could potentially regulate electronic currency. Only then can the legal and monetary implications be adequately evaluated.

### A. *How Bitcoin Operates and How Bitcoin Is Used*

Bitcoin is an electronic form of floating currency unbacked by any real asset and without specie, such as coin or precious metal.<sup>10</sup> It is not regulated by a central bank or any other form of governmental authority; instead, the supply of Bitcoins is based on an algorithm which structures a decentralized peer-to-peer transaction system.<sup>11</sup> Bitcoin was designed to reduce the transaction costs that are created when third parties validate transactions and mediate disputes.<sup>12</sup> It solved this problem using a system where all of the other users work together to validate transactions, creating a public record of the chain of custody of each Bitcoin.<sup>13</sup>

Users access their Bitcoin account through electronic wallets.<sup>14</sup> They can keep their wallets on their computers, or, to mitigate the risk of theft, they can sign up to use a wallet through an online wallet service.<sup>15</sup> Each wallet is based

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10. See Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System 8 (2008) (unpublished white paper) (claiming that the Bitcoin system does not require any backing or “trust”), available at <http://bitcoin.org/bitcoin.pdf>. Individuals have made both Bitcoin coins and bills, however these have not been officially adopted by the Bitcoin system. See *Physical Bitcoins by Casascius*, <https://www.casascius.com/> (last visited Mar. 8, 2013) (coins); BITBILLS, <http://www.bitbills.com/> (last visited Mar. 8, 2013) (bills).

11. Chen, *supra* note 1. Satoshi Nakamoto created the algorithm in 2008 in a self-published paper. Nakamoto, *supra* note 10. Many consider the name to be an alias. Joshua Davis, *The Crypto-Currency*, NEW YORKER, Oct. 10, 2011, at 62; Posting of Wobber, *Who Is Satoshi Nakamoto?*, BITCOIN FORUM (Apr. 16, 2011, 9:25 PM), <https://bitcointalk.org/index.php?topic=5951.0> (“Nobody knows him.”).

12. Nakamoto, *supra* note 10, at 1.

13. *Id.* at 2.

14. J.P., *Bits and Bob*, ECONOMIST (June 13, 2011, 8:30 PM), <http://www.economist.com/node/21518611>.

15. *Id.* (noting that the wallet services have their own risk of going defunct or vanishing with users’ coins). There has already been one instance of a wallet service fraud. Benjamin Wallace, *The Rise and Fall of*

upon keypairs—a set of public and private keys that perform different functions.<sup>16</sup> The public keys generate an address: essentially a string of letters and numbers approximately twenty-seven to thirty-four characters long.<sup>17</sup> The private keys are used to authorize transactions.<sup>18</sup> Addresses contain no information about the user, but the public keys' signature can be used to trace transactions.<sup>19</sup> Thus, a Bitcoin can be traced through every address that held it; however, the ownership of each address remains anonymous.

When a transaction is made, it is time-stamped and cannot be modified.<sup>20</sup> This notarizes the transaction and prevents Bitcoins from being double-spent.<sup>21</sup> A single Bitcoin, thus, has a “block chain,” a history of time-stamped transactions where it moved from one address to another.<sup>22</sup>

There are a number of ways to begin trading in Bitcoin. One option is to identify someone who is willing to send Bitcoins and offer to pay traditional currency in exchange.<sup>23</sup> After setting a price, the seller can then transfer the Bitcoins to the buyer's wallet.<sup>24</sup> A more formal mechanism for Bitcoin trading is to use a Bitcoin exchange.<sup>25</sup> Traders can use an e-commerce intermediary, such as Dwolla or PayPal,<sup>26</sup> to make a cash payment into an exchange and to cash out from an exchange.<sup>27</sup> Like traditional currency exchanges, price is not usually individually negotiated, but based on the aggregate supply of, and demand for, Bitcoins in the system.<sup>28</sup> Use of the exchanges through Dwolla or PayPal adds to the transaction cost,<sup>29</sup> but it is more efficient and better monitored.

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*Bitcoin*, WIRED (Nov. 23, 2011, 2:52 PM), [http://www.wired.com/magazine/2011/11/mf\\_bitcoin/all/1](http://www.wired.com/magazine/2011/11/mf_bitcoin/all/1) [hereinafter Wallace, *Rise and Fall*] (describing how Tom Williams ran MyBitcoin from the West Indies and one day disappeared with everyone's coins).

16. Nakamoto, *supra* note 10, at 6.

17. *Address*, BITCOIN WIKI, <https://en.bitcoin.it/wiki/Address> (last visited Mar. 8, 2013) (“An example of a Bitcoin address is *31uEbMgunupShBVTewXjtqbBv5MndwfXhb*.”).

18. Nakamoto, *supra* note 10, at 2.

19. See Fergal Reid & Martin Harrigan, *An Analysis of Anonymity in Bitcoin 10–11* (Sept. 30, 2011, 1:20 AM) (unpublished white paper) (mapping a network of transactions surrounding a theft of Bitcoins), available at <http://anonymity-in-bitcoin.blogspot.com/2011/07/bitcoin-is-not-anonymous.html>. For more on investigation techniques to crack the anonymity of Bitcoins, see *infra* Part IV.

20. Nakamoto, *supra* note 10, at 2–3.

21. *Id.* at 2.

22. Reid & Harrigan, *supra* note 19, at 3.

23. *The Tuesday Podcast: Bitcoin*, NAT'L PUB. RADIO (July 12, 2011, 6:44 PM) [hereinafter *Tuesday Podcast*] (downloaded from *Planet Money*, NPR, <http://www.npr.org/blogs/money/2011/07/13/137795648/the-tuesday-podcast-bitcoin>).

24. *Id.*

25. BITCOIN EXCHANGES, <http://www.bitcoinexchanges.net/> (last visited Mar. 8, 2013).

26. PayPal has pulled out of serving as intermediary for Bitcoin exchanges. Jason Mick, *Digital Black Friday: First Bitcoin “Depression” Hits*, DAILY TECH (June 10, 2011, 7:05 PM), <http://www.dailytech.com/Digital+Black+Friday+First+Bitcoin+Depression+Hits/article21877.htm> [hereinafter Mick, *Black Friday*].

27. Danny Schreiber, *Bitcoin: What Is It and How Is Dwolla Involved in the Marketplace?*, SILICON PRAIRIE NEWS (June 21, 2011), <http://www.siliconprairienews.com/2011/06/bitcoin-what-is-it-and-how-is-dwolla-involved-in-its-marketplace>.

28. Daniel Roberts, *The Clock Is Ticking on Bitcoin*, CNN (June 17, 2011, 12:29 PM), <http://tech.fortune.cnn.com/2011/06/17/the-clock-is-ticking-on-bitcoin/>.

29. PayPal charges 2.9% + \$0.30 per transaction. *PayPal Merchant Fees*, PAYPAL, [https://cms.paypal.com/us/cgi-bin/?cmd=\\_render-content&content\\_ID=merchant/merchant\\_fees](https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=merchant/merchant_fees) (last visited Mar. 8, 2013). Dwolla's costs are even less: \$0.25 per transaction over \$10, and free under that amount. *Dwolla Fees*, DWOLLA, <https://www.dwolla.com/fees> (last visited Mar. 8, 2013).

Bitcoin is used in a variety of forums. It originally began as a novel currency for computer geeks who were working on Internet-related tasks.<sup>30</sup> The currency may also have been favored by those who viewed American monetary policy as unconstitutional and therefore illegitimate.<sup>31</sup> Their investment in Bitcoin is a political demonstration of the feasibility of a private legal currency.

However, Bitcoins have seen increasing acceptance in a number of other contexts. As alluded to in the Introduction, Bitcoin is commonly used for online drug markets or casinos.<sup>32</sup> Bitcoin has also been accepted by legitimate organizations, such as WikiLeaks, for charitable donations.<sup>33</sup> Additionally, this trend has been extended to donations to illegitimate organizations, such as criminal hacker groups.<sup>34</sup> Even some brick-and-mortar facilities accept Bitcoins.<sup>35</sup> For example, customers can log onto a computer and transfer Bitcoins from their account into the account of a number of restaurants.<sup>36</sup>

Currently there are nearly 10.7 million Bitcoins in existence, and this amount is steadily increasing.<sup>37</sup> Best estimates place Bitcoin adoption at a peak in September of 2012, reaching over 60,000 active users.<sup>38</sup> However, that amount has settled into the 20,000-user range.<sup>39</sup> Although some commentators have already proclaimed the death of Bitcoin due to system vulnerabilities,<sup>40</sup> they are mistaken.<sup>41</sup> Bitcoin is ideal for those who seek to purchase illegal guns or drugs online, sponsor domestic or international terrorist agendas, or even hire a hit man in anonymity.<sup>42</sup> Therefore, although Bitcoin use may diminish among mainstream hobbyists, its adoption will be maintained among

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30. Wallace, *Rise and Fall*, *supra* note 15. For example, one might trade three Bitcoins in exchange for some programming help on a website.

31. Ruth Whippman, *Bitcoin: The Hacker Currency That's Taking Over the Web*, *GUARDIAN* (June 12, 2011, 3:00 PM), <http://www.guardian.co.uk/technology/2011/jun/12/bitcoin-online-currency-us-government>. For more on this topic, see *infra* Part II.B.1.

32. Chen, *supra* note 1.

33. Adam Clark Estes, *Bitcoin's Speedy Fall: EFF Halts Donations and Wikileaks Cashes Out*, *ATLANTIC WIRE* (June 21, 2011), <http://www.theatlanticwire.com/technology/2011/06/bitcoin-eff-wikileaks-fsf-donations/39055/>; BITCOINS FOR CHARITY, <http://bitcoinsforcharity.org/> (last visited Mar. 8, 2013).

34. Sara Yin, *Bitcoin: The Currency of Hackers*, *PC MAG* (June 13, 2011, 11:06 AM), <http://www.pcmag.com/article2/0,2817,2386812,00.asp>.

35. *Tuesday Podcast*, *supra* note 23.

36. *Id.*

37. *Total Number of Bitcoins in Existence*, *BITCOIN BLOCK EXPLORER*, <http://blockexplorer.com/q/totalbc> (last visited Mar. 12, 2013).

38. *Bitcoin Map*, *BITCOIN WIKI*, [https://en.bitcoin.it/wiki/Bitcoin\\_Map](https://en.bitcoin.it/wiki/Bitcoin_Map) (last visited Mar. 13, 2012).

39. *Id.*

40. Estes, *supra* note 33 (noting that major non-profits are no longer accepting Bitcoins); Roberts, *supra* note 28 (suggesting Bitcoin will be regulated soon); Wallace, *Rise and Fall*, *supra* note 15 (describing Bitcoin as going from “currency of tomorrow to dystopian joke”); Tim Worstall, *So That's the End of Bitcoin Then*, *FORBES* (June 20, 2011, 4:42 AM), <http://www.forbes.com/sites/timworstall/2011/06/20/so-thats-the-end-of-bitcoin-then/> (“It’s difficult to see what the currency has going for it.”).

41. Timothy Lee, *Bitcoin's Comeback: Should Western Union Be Afraid?*, *WIRED* (Dec. 21, 2011, 3:33 PM), <http://www.wired.com/threatlevel/2011/12/bitcoins-comeback/> (“We thought Bitcoin’s value would continue to collapse, but so far that hasn’t happened.”). One developer has noted that Bitcoin as a product has passed through industry analyst Gartner’s “trough of disillusionment” and is entering the “plateau of productivity.” Wallace, *Rise and Fall*, *supra* note 15.

42. Using the same principles as Silk Road, Black Market [Reloaded] markets criminal services, such as assassination and murder, along with the more mundane drug and weapons sales. Wallace, *Rise and Fall*, *supra* note 15.

hardcore hackers, smugglers, and anarchists.

This Note stresses the need for a paradigm shift away from passively viewing the rise and fall of Bitcoin into an activist role of recognizing the convenience and novelty of e-currency, but diminishing its capacity for criminal exploitation. The following section documents existing laws that can be used to restrict e-currency use.

*B. The Legal Principles That Can Potentially Be Leveraged to Regulate Bitcoin*

Some authors have concluded that Bitcoin is probably legal under current U.S. law.<sup>43</sup> However, there are a number of existing statutes that could be used if authorities desired to restrict Bitcoin use.

*1. Federal Power and Currency*

Before addressing which statute is best suited for regulating Bitcoin, it is important to examine whether it is constitutional to use federal law to limit the use of electronic currency. The constitutional issues that come into play are whether the federal government has the power to create legal tender and the power to regulate legal currency.

The Constitution reads: “No state shall . . . emit Bills of Credit; make any Thing but gold and silver coin a Tender in Payment of Debts . . .” and that, “[t]he Congress shall have the Power . . . To coin Money, regulate the Value thereof, and of foreign Coin.”<sup>44</sup> This has been interpreted to mean that states do not have the power to issue their own forms of legal currency because this power is reserved for the federal government.<sup>45</sup>

In 1792, Congress passed the Mint Act and established the U.S. dollar.<sup>46</sup> Backed by silver, the dollar was defined as 24.056g of silver.<sup>47</sup> In 1834, the dollar became backed by 1.5g of gold.<sup>48</sup> However, the Civil War led to a run on specie, which left the United States short on gold coins.<sup>49</sup> Congress’s response was to legitimize the release of paper tender, unbacked by the gold standard.<sup>50</sup> The Supreme Court initially declared the issuance of these “greenbacks” unconstitutional.<sup>51</sup> The dispute that led to this decision arose

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43. For another examination of whether Bitcoin falls within the purview of current law, see Grinberg, *supra* note 9, at 181–206. Mr. Grinberg does not draw a conclusion either way as to the legality of Bitcoin. *Id.* at 206. Whereas Mr. Grinberg’s article focuses on whether Bitcoin will be found illegal under current law, this Note focuses instead on the policy implications of using particular statutes to attempt to regulate Bitcoin.

44. U.S. CONST. art. I, § 10.

45. *Julliard v. Greenman*, 110 U.S. 421, 446 (1884) (“The Constitutional authority of congress to provide currency for the whole country is now firmly established.”).

46. Mint Act, ch. 16, 1 Stat. 246 (1792).

47. Arthur Nussbaum, *The Law of the Dollar*, 37 COLUM. L. REV. 1057, 1059–60 (1937).

48. *Id.* at 1064; Paul O’Leary, *The Coinage Legislation of 1834*, 45 J. POL. ECON. 80, 94 (1937).

49. *Echoes of the Past With Implications for the Future: The Stamp Payments Act of 1862 and Electronic Commerce*, Banking Rep. (BNA) No. 67, at 465 (1996) [hereinafter *Echoes of the Past*].

50. Legal Tender Act, ch. 33, 12 Stat. 345 (1862).

51. *Hepburn v. Griswold*, 75 U.S. (8 Wall.) 603, 626 (1870).

when a debtor tried to repay a debt that existed before bills were legal tender.<sup>52</sup> The payor offered to cover the debt with newly minted United States notes, but was refused by the payee.<sup>53</sup> The Supreme Court found that although Congress had the power to mint coin and issue bills or notes, it did not have the power to issue notes *as legal tender*.<sup>54</sup> Put another way, Congress could not force a debtor to accept a particular form of payment. The Court expressed particular concern for the individual right of citizens to contract how they may obligate their own debts.<sup>55</sup>

The Supreme Court soon overruled this decision and found that paper money did not conflict with the Constitution. The Court's reasoning was that certifying notes as legal tender was a combination of Congress's power to coin money and to affix standards.<sup>56</sup> Justice Bradley, concurring, noted that the power under the Necessary and Proper clause allows Congress efficient and effective realization of "national resources."<sup>57</sup>

The *Hepburn* Court drew a strong distinction between legal tender and legal currency. Indeed, the two are not the same. According to Merriam Webster, "legal tender" is "currency in such amounts and denominations as the law authorizes a debtor to tender and requires a creditor to receive in payment of money obligations."<sup>58</sup> However, "currency," according to Webster, is a legitimate "medium of exchange."<sup>59</sup> To be more specific, it is possible for a government to host one legal tender, but to recognize a number of other legal currencies. Under this state of affairs, a *creditor* could not refuse payment offered in legal tender for a debt, but a *service provider* could be particular about which currency they will accept. Even though the U.S. dollar is the only legal tender, those providing goods or services are not forced to accept certain denominations when their service does not involve a debt or obligation.<sup>60</sup>

Congress has the power to regulate legal currency. The Supreme Court has made clear:

[I]n the exercise of undisputed constitutional powers, undertaken to provide a currency for the whole country, it cannot be questioned that congress may, constitutionally, secure the benefit of it to the people by appropriate legislation. To this end, congress has denied the imposition of counterfeit and base coin to the community. To the same end, congress may restrain, by suitable enactments, the circulation as money of any notes not issued under its own authority. Without this power, indeed, its attempts to secure a sound and

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52. *Id.* at 606.

53. *Id.*

54. *Id.* at 616.

55. *Id.* at 623 ("[I]t is understood and declared that no law ought ever to be made or have force in the said territory, that shall in any manner interfere with or affect private contracts . . .").

56. *Knox v. Lee & Parker v. Davis*, 79 U.S. (9 Wall.) 457, 553 (1871).

57. *Id.* at 560 (Bradley, J., concurring).

58. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1290 (Philip Babcock Gove ed. 2002).

59. *Id.* at 557.

60. *Legal Tender Status*, U.S. DEPT. OF THE TREASURY, <http://www.treasury.gov/resource-center/faqs/Currency/Pages/legal-tender.aspx> (last updated Jan. 4, 2011).

uniform currency for the country must be futile.<sup>61</sup>

The next two parts will address two such enactments by Congress.

## 2. *Counterfeiting Prohibitions*

The most obvious legal framework for regulating currency is the counterfeiting statutes.<sup>62</sup> An enterprising litigator could claim that Bitcoin is a form of counterfeiting, and creating, mining, and possessing Bitcoins is therefore an illegal act. This section will examine the language of the counterfeiting statutes, as well as their application, in several contexts.

The United States has a robust set of counterfeiting laws that prohibit almost any form of legal tender imitation. The statutes expressly punish those who falsely make, forge, or counterfeit “any coin or bar in resemblance or similitude of any coin of a denomination higher than 5 cents or any gold or silver bar coined or stamped at any mint or assay office of the United States . . . .”<sup>63</sup> The counterfeiting statutes are broad and do not simply punish those who attempt to create imitation currency, but also those who attempt to “utter or pass, any coins of gold or silver or other metal, or alloys of metals, intended for use as current money . . . .”<sup>64</sup>

The counterfeiting statutes are concerned not just with undue wealth creation, but competition with U.S. legal tender that could, in aggregate, do damage to the value of the U.S. dollar and American monetary policy.<sup>65</sup> This principal is particularly true in a world where governments have fiat currencies—floating currencies whose value is derived relative to each other and their own purchasing power.<sup>66</sup> Thus, it is illegal for an individual to make or pass currency “whether in the resemblance of coins of the United States . . . or of original design.”<sup>67</sup>

Most famous counterfeiting cases involve attempts at directly replicating legal tender, checks, or other financial instruments. For example, Frank Abagnale Jr. passed approximately \$2.5 million in fraudulent checks.<sup>68</sup> Emerich Juether, also known as Edward Mueller, eluded authorities for years as he passed replica \$1 bills.<sup>69</sup> Thirteen-year-old Mary Butterworth used a

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61. *Veazie Bank v. Fenno*, 75 U.S. (7 Wall.) 533, 549 (1869) (addressing the federal power to issue a tax on private bank notes).

62. 18 U.S.C. §§ 485–486 (2006).

63. *Id.* § 485.

64. *Id.* § 486.

65. *See United States v. LeMon*, 622 F.2d 1022, 1024 (10th Cir. 1980) (“The manifest purpose of the counterfeiting statute is the protection of all currency and obligations of the United States.”). A counterfeiting penalty was included with the passing of the Legal Tender Act. Ch. 33, 12 Stat. 347.

66. *See* BENJAMIN KLEIN & MICHAEL MELVIN, *Competing International Monies and International Monetary Arrangements*, in *THE INTERNATIONAL MONETARY SYSTEM: CHOICES FOR THE FUTURE* 290, 294–97 (Michael B. Connolly ed., 1982).

67. 18 U.S.C. § 486 (emphasis added).

68. *About Frank Abagnale*, ABAGNALE & ASSOCIATES, <http://www.abagnale.com/aboutfrank.htm> (last visited Mar. 8, 2013).

69. William Bryk, *Little Old Money-maker*, N.Y. SUN (Feb. 16, 2005), <http://www.nysun.com/on-the-town/little-old-money-maker/9282/>.

cotton cloth, an iron, and a pen to replicate early eighteenth century currency.<sup>70</sup>

But there are fewer instances of counterfeiting via “original design.” A recent case has shed light on what constitutes original-design counterfeiting under federal law. Beginning in 1998, the National Organization to Repeal the Federal Reserve Act and the Internal Revenue Code (NORFED) produced gold and silver coins as well as gold-backed dollar bills which it called “Liberty Dollars.”<sup>71</sup> The organization was based in Evansville, Indiana and used a private mint to circulate, according to its claim, \$20,000,000 in currency.<sup>72</sup> The advertisements for Liberty Dollars referred to it as “real money” and “currency.”<sup>73</sup> The bills contained inscribed terms such as “Liberty,” “Dollars,” “Trust in God,” and “USA,” and the coins contained images such as the Torch of the Reserves, the Statue of Liberty, and the Bill of Rights.<sup>74</sup> NORFED claimed that Liberty Dollars were “absolutely 100% legal, lawful, and Constitutional! Legal opinions have been obtained by prominent attorneys that validate that the Liberty Dollar complies with all U.S. laws and the Uniform Commercial Code.”<sup>75</sup>

It is important to note that Liberty Dollars were not an exact attempt to copy U.S. tender. To begin with, Liberty Dollars were not green, like U.S. dollars, but rather pink, red, blue, and other colors.<sup>76</sup> Furthermore, the bills lacked any images of presidents: on one side was an image of the Statue of Liberty, on the other was a description of the bill as a warehouse receipt.<sup>77</sup> Even the dimensions differed between U.S. dollars and Liberty Dollars.<sup>78</sup> Appendix A.1 juxtaposes images of Liberty Dollars to traditional U.S. dollars to illustrate the obvious differences between the two.<sup>79</sup>

In 2006, the U.S. Mint released a press release stating that prosecutors within the Justice Department had found that competition with U.S. currency is

70. LYNN GLASER, COUNTERFEITING IN AMERICA 21–22 (1968). Though her brother and sister-in-law testified against her, she was acquitted for lack of evidence. *Id.*

71. Elizabeth Williamson, ‘Liberty Dollars’ Can Buy Users a Prison Term, U.S. Mint Warns, WASH. POST (Oct. 10, 2006), <http://www.washingtonpost.com/wp-dyn/content/article/2006/10/09/AR2006100900993.html>.

72. Press Release, U.S. Mint, Liberty Dollars Not Legal Tender, United States Mint Warns Consumers (Sept. 14, 2006) [hereinafter Press Release, U.S. Mint], available at [http://www.usmint.gov/pressroom/index.cfm?flash=yes&action=press\\_release&id=710](http://www.usmint.gov/pressroom/index.cfm?flash=yes&action=press_release&id=710).

73. *Id.*

74. *Id.*

75. *Frequently Asked Questions*, LIBERTY DOLLAR, <http://libertydollar.org/ld/faqs/> (available through WAYBACK MACHINE, <http://web.archive.org/web/20090220133950/http://libertydollar.org/ld/faqs/> (last visited Mar. 8, 2013)).

76. For images of Liberty Dollars, see *Liberty Dollar Office Raided by FBI—Gold and Silver “Coins” Seized*, COINLINK (Nov. 16, 2007), <http://www.coinlink.com/News/top-stories/liberty-dollar-office-raided-gold-and-silver-coins-confiscated/> [hereinafter *Raided by FBI*].

77. Post of hugolp, *Re: Liberty Dollars Held by Collectors Subject to Seizure as Contraband*, BITCOIN TALK (Sept. 6, 2011, 6:51 PM), <https://bitcointalk.org/index.php?topic=41067.0>. However, the coins did feature presidential candidate Ron Paul. *Raided by FBI*, *supra* note 76. For a discussion on the purpose of the warehouse receipt, see *infra* Part I.B.6.

78. Letter from Paul J. Sulla to G. Edward Griffin (June 10, 1998) [hereinafter Sulla], available at <http://web.archive.org/web/20090227104328/http://www.libertydollar.org/ld/legal/legalopinionletter.htm>. For an image comparing Liberty Dollars and U.S. dollars, see Post of hugolp, *supra* note 77.

79. *Raided by FBI*, *supra* note 76; *United States Dollar*, FAMOUS WONDERS, <http://famouswonders.com/united-states-dollar/> (last visited Feb. 3, 2013) (displaying the image of the U.S. dollar).

a criminal act.<sup>80</sup> The Mint asserted that Liberty Dollars were illegal not just because they resemble U.S. dollars, but because they attempted to compete with them as well.<sup>81</sup>

In March 2011, Liberty Coin creator Bernard von NotHaus was convicted of conspiracy<sup>82</sup> and two counts of counterfeiting.<sup>83</sup> According to von NotHaus, during the trial, prosecutors compared the similarity of Liberty Dollar coins to U.S. coins and successfully made clear the possibility of confusion between the two.<sup>84</sup> In response, the FBI released a press release stating, “It is a violation of federal law for individuals, such as von NotHaus, or organizations, such as NORFED, to create private coin or currency systems to compete with the official coinage and currency of the United States.”<sup>85</sup> However, some have noted that during trial, the judge removed the “competition” clause of the indictment without objection by the prosecution, and the government’s press release is not on sound legal footing.<sup>86</sup>

The counterfeiting statutes have been used to prosecute not just instances of direct copying of U.S. legal tender, but original designs, which confuse spenders and compete with the U.S. dollar. Part III addresses whether it is possible that Bitcoin is a form of illegal counterfeiting.

### 3. *The Stamp Payments Act*

Other statutes directly address an individual’s ability to create legal currency that competes with U.S. legal tender. It could be argued that circulating Bitcoin is illegal under the Stamp Payments Act.

The Stamp Payments Act of 1862 proscribes: “Whoever makes, issues, circulates, or pays out any note, check, memorandum, token, or other obligation for a less sum than \$1, intended to circulate as money or to be received or issued in lieu of lawful money of the United States, shall be fined under this title or imprisoned not more than six months, or both.”<sup>87</sup> This law was enacted during the coin shortage that resulted from Civil War monetary policy.<sup>88</sup> Businesses had begun to release their own stamps as private currencies since many small coins had been hoarded.<sup>89</sup> It was Congress’ intent to disincentivize businesses who issued these stamps that competed with U.S.

80. Press Release, U.S. Mint, *supra* note 72.

81. *See id.* (“Liberty Dollars . . . compete with the circulating coinage of the United States. Consequently, prosecutors . . . have concluded that the use of NORFED’s ‘Liberty Dollars’ . . . is a crime.”).

82. 18 U.S.C. §§ 371, 485, 486 (2006).

83. Press Release, Fed. Bureau of Investigation, Defendant Convicted of Minting His Own Currency (Mar. 18, 2011) [hereinafter Press Release, FBI], *available at* <http://www.fbi.gov/charlotte/press-releases/2011/defendant-convicted-of-minting-his-own-currency>.

84. Reality Report, *Bernard von NotHaus: Liberty Dollar Trial Update*, YOUTUBE (Apr. 18, 2011), <http://www.youtube.com/watch?v=U0D7s4MfbQE>.

85. Press Release, FBI, *supra* note 83 (“Attempts to undermine the legitimate currency of this country . . . represent a clear and present danger to the economic stability of this country.”).

86. Seth Lipsky, *When Private Money Becomes a Felony Offense*, WALL ST. J. (Mar. 31, 2011), <http://online.wsj.com/article/SB10001424052748704425804576220383673608952.html>.

87. 18 U.S.C. § 336 (2006).

88. *Echoes of the Past*, *supra* note 49, at 465.

89. *Id.*

coins.<sup>90</sup> The Act has most recently been incorporated into the Violent Crime Control and Law Enforcement Act of 1994.<sup>91</sup>

In *Monongahela Bridge*, the court was concerned with whether a train company's paper ticket labeled "good for one trip" was in violation of the Stamp Payments Act.<sup>92</sup> The court concluded that the tickets were not in violation of the law because they bore no resemblance to U.S. coins and did not offer payment in money.<sup>93</sup>

Another charge saw its way to the Supreme Court when a furnace company issued notes that it would pay fifty cents worth of goods on demand.<sup>94</sup> The Court found that the Act did not apply because the notes' restriction to "payment in goods" limited the geographic range of the notes' worth and, thus, they could not realistically compete with U.S. tender.<sup>95</sup>

Finally, in a later case, an individual created tokens that stated "good for amusement only" and "no cash value," but could potentially fool vending machines into accepting them as currency.<sup>96</sup> The Minnesota District Court rejected a "mechanical test" (an ironic double entendre) and focused on whether the coins would "deceive [a] person exercising ordinary caution."<sup>97</sup> It concluded that, in this case, there was no way most people could be duped into using the tokens as currency.<sup>98</sup> Finally, the court was quite concerned with whether the tokens were intended to be used as a medium of exchange—which simply was not the case.<sup>99</sup>

This reasoning furthers the argument that the purpose of the Stamp Act is to prohibit currencies that undermine the circulation of coins. Individuals who circulate notes, stamps, or tokens meant to be payable only in goods are not posing a real threat to U.S. coin denominations. From this, one commentator has noted that the Stamp Payments Act is unlikely to apply to instances where the currency: (1) Serves a particular community; (2) Is for repayment in goods; and (3) Does not compete with U.S. coins.<sup>100</sup>

Though the Stamp Payments Act has not often been used, it is possible that it could be revitalized to limit the use of Bitcoin.

#### 4. *The Securities and Exchange Acts*

Another candidate is the Securities and Exchange Acts. By trading Bitcoins for other currency, exchanges are potentially engaged in securities trading, and thus fall within the purview of the Securities and Exchange

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90. *Id.*

91. *Id.* at 467; 18 U.S.C. § 336.

92. *United States v. Monongahela Bridge Co.*, 26 F. Cas. 1292, 1292 (W.D. Pa. 1863).

93. *Id.* at 1292–93.

94. *United States v. Van Auken*, 96 U.S. 366, 367 (1877).

95. *Id.* at 369.

96. *United States v. Gellman*, 44 F. Supp. 360, 362 (D. Minn. 1946).

97. *Id.* at 363.

98. *Id.* ("[A]ny school child, or the most illiterate person, would not be duped into accepting any of these slugs or tokens as genuine coins.")

99. *Id.* at 364.

100. Grinberg, *supra* note 9, at 187.

Commission (SEC). Of course, much has been written about the Securities and Exchange Acts,<sup>101</sup> and a full survey of the Acts lies outside the scope of this Note. Instead, this Note will concern itself with the purpose of the Acts, definitions within the Acts, and consequences of the Acts when addressing arguments in favor of or against its application to Bitcoin.

The Securities Act was enacted due to the overriding public interest in providing comprehensive regulation for markets and exchanges.<sup>102</sup> Congress showed appreciable concern for the fact that “[f]requently the prices of securities on such exchanges and markets are susceptible to manipulation and control, and the dissemination of such prices gives rise to excessive speculation, resulting in sudden and unreasonable fluctuations in the prices of securities . . . .”<sup>103</sup> It also made note of the effect of securities on liquidity and credit in times of economic strife.<sup>104</sup>

The 1929 stock market crash was believed to be caused, at least in part, by “excessive promotion of securities at prices unreasonably high in relation to their true underlying values.”<sup>105</sup> Congress’ goal was to force markets into conservative valuations, increased disclosure, and a dedicated surveillance for fraud.<sup>106</sup> Before the Great Depression, many uneducated investors believed the stock market was a place where investments only went up.<sup>107</sup> Because of little comprehensive regulation regarding securities, individuals could get away with failing to disclose negative facts about their company.<sup>108</sup> Other fraudsters would band together and manipulate stock prices by purchasing them en masse and trading amongst themselves.<sup>109</sup>

The Securities Act prohibits an individual who “with intent to defraud, passes, utters, publishes, or sells, or attempts to pass, utter, publish, or sell, or with like intent brings into the United States or keeps in possession or conceals any falsely made, forged, counterfeited, or altered obligation or other security of the United States.”<sup>110</sup> As the statute stands, the Act applies to notes, stocks, investments, and commodities.<sup>111</sup>

Although perhaps pedantic, a survey of the definitions of each of these terms is useful when dealing with an instrument as unique as Bitcoin. A stock is “[a] proportional part of a corporation’s capital represented by the number of equal units (or shares) owned, and granting the holder the right to participate in the company’s general management and to share in its net profits or

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101. See generally THOMAS LEE HAZEN, *FEDERAL SECURITIES LAW* (2d ed. 2003); MARC I. STEINBERG, *SECURITIES REGULATION* (5th ed. 2009); THOMAS LEE HAZEN, *SECURITIES REGULATION* (2008) (serving as a reference to the Securities Acts and rules).

102. 15 U.S.C. § 78b. (2006).

103. *Id.* § 78b.(3).

104. *Id.* § 78b.(4).

105. Edmund W. Kitch, *A Federal Vision of the Securities Laws*, 70 VA. L. REV. 857, 858 (1984).

106. *Id.*

107. HAROLD BIERMAN JR., *THE CAUSES OF THE 1929 STOCK MARKET CRASH: A SPECULATIVE ORGY OR A NEW ERA?* 29–32 (1998).

108. *Id.* at 20–23.

109. *Id.* at 35–37.

110. 18 U.S.C. § 472 (2006).

111. 15 U.S.C. § 78c.(a)(10) (2006).

earnings.”<sup>112</sup> A note is “[a] written promise by one party (the *maker*) to pay money to another party (the *payee*) or to bearer.”<sup>113</sup> A commodity is “[a]n article of trade or commerce . . . . The term embraces only tangible goods, such as products or merchandise, as distinguished from services.”<sup>114</sup> However, definitions are to be taken broadly within the Acts and focus on the real-world implications of the vehicle.<sup>115</sup> Importantly, foreign currency falls outside the purview of the securities laws.<sup>116</sup> Currency is defined as: “[a]n item (such as a coin, government note, or banknote) that circulates as a medium of exchange.”<sup>117</sup>

Of course, the securities laws are also applicable to investment contracts.<sup>118</sup> The Supreme Court clarified that an investment contract is “a contract, transaction, or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party . . . .”<sup>119</sup> However, the investor may still have a nominal involvement in the investment.<sup>120</sup> An investment contract can revolve around the purchase of a piece of technology, but a critical question becomes whether the investor seeks to derive profit from the piece of technology, rather than use or enjoy it.<sup>121</sup>

Investments that fall under the securities laws must register with the SEC.<sup>122</sup> Issuers must also make regular public reports to the SEC where they disclose pertinent facts.<sup>123</sup> Furthermore, issuers are subject to liability in instances of fraud.<sup>124</sup>

What qualifies as an exchange is broad and includes currency exchanges.<sup>125</sup> However, in a relevant limitation to the definition, the Seventh Circuit found that a computer program called “Delta,” which compiled information about buyers and sellers and made the two parties aware of each other, was not an exchange.<sup>126</sup> The court noted that Delta lacked a “trading

112. BLACK’S LAW DICTIONARY 1551 (9th ed. 2009).

113. *Id.* at 1162.

114. *Id.* at 310.

115. SEC v. C. M. Joiner Leasing Corp., 320 U.S. 344, 351 (1943) (“[T]he reach of the Act does not stop with the obvious and commonplace. Novel, uncommon, or irregular devices, whatever they appear to be, are also reached if it be proved as matter of fact that they were widely offered or dealt in under terms or courses of dealing which established their character in commerce as ‘investment contracts,’ or as ‘any interest or instrument commonly known as a ‘security.’”).

116. Proctor & Gamble Co. v. Bankers Trust Co., 925 F. Supp. 1270, 1280 n.4 (S.D. Ohio 1996).

117. BLACK’S LAW DICTIONARY 440 (9th ed. 2009).

118. 15 U.S.C. § 78c.(a)(10) (2006).

119. SEC v. W.J. Howey Co., 328 U.S. 293, 298–99 (1946) (defining “investment contracts” using state “Blue Sky” laws).

120. SEC v. Merch. Capital, LLC, 483 F.3d 747, 755 (11th Cir. 2007); SEC v. Alpha Telcom, Inc., 187 F. Supp. 2d 1250, 1260 (D. Or. 2002), *aff’d*, SEC v. Ruttera, 350 F.3d 1084, 1097 (9th Cir. 2003).

121. SEC v. Infinity Grp. Co., 212 F.3d 180, 187 (3d Cir. 2000).

122. 15 U.S.C. § 77e.(a), e.(c) (2006).

123. 17 C.F.R. § 229.601 (2012).

124. See Caravan Mobile Home Sales v. Lehman Bros. Kuhn Loeb, 769 F.2d 561, 564 (9th Cir. 1985) (stating that to be held liable, issuers must (1) intentionally; (2) misrepresent; (3) a material fact; (4) in connection with the sale of securities).

125. 15 U.S.C. § 78c.(a)(1) (2006). Foreign currency exchanges apply as well. United States v. Roberts, No. 4:08CR00181, 2008 WL 5111165, at \*1 (E.D. Ark. Dec. 2, 2008).

126. Bd. of Trade of Chi. v. SEC, 923 F.2d 1270, 1272 (7th Cir. 1991).

floor.”<sup>127</sup> Although virtual exchanges can possibly fall within the definition of the Act, they must behave in a way “generally understood” as the way exchanges conduct business.<sup>128</sup>

Thus, Bitcoin could potentially be considered securities through a number of various definitions, and exchanges such as Mt. Gox could feasibly fall within the purview of the Exchange Act.

##### 5. *Requirements of Financial Institutions*

Financial institutions are required to conform to a plethora of statutes in order to play a role in reducing money laundering, fraud, and tax evasion. These statutes include the Bank Secrecy Act<sup>129</sup> and the Money Laundering Statute.<sup>130</sup> Exchanges that trade Bitcoin could be regulated through the use of these statutes.

The Bank Secrecy Act requires financial institutions to report currency transactions over \$10,000.<sup>131</sup> Financial institutions are also required to file a number of other reports involving the transport of currency.<sup>132</sup> Additionally, these institutions are required to police and report suspicious activity by registering with the Financial Crimes Enforcement Network (FinCEN).<sup>133</sup> A currency exchange is a recognized financial institution according to the Bank Security Act.<sup>134</sup>

The money laundering statute prohibits those who:

[K]nowing that the property involved in a financial transaction represents the proceeds of some form of unlawful activity, conduct[] or attempt[] to conduct such a financial transaction which in fact involves the proceeds of specified unlawful activity . . . knowing that the transaction is designed in whole or in part—to conceal or disguise the nature, the location, the source, the ownership, or the control of the proceeds of specified unlawful activity.<sup>135</sup>

It has been noted that money laundering cases primarily turn on the scienter element of the crime.<sup>136</sup> Although “knowing” is a high standard and does not capture mere negligence, “willful blindness”—where an actor knowingly disregards the potentially criminal nature regarding the origin of the funds—will satisfy the element of scienter.<sup>137</sup>

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127. *Id.* The court did not expect a literal trading floor, but a virtual one. *Id.*

128. *Id.*

129. 31 U.S.C. §§ 5311–5330 (2006).

130. 18 U.S.C. § 1956 (2006).

131. 31 U.S.C. § 5313(a); 31 C.F.R. § 103.22 (2011).

132. 31 U.S.C. § 5313.

133. *Forms*, FINCEN, [http://www.fincen.gov/financial\\_institutions/forms.html](http://www.fincen.gov/financial_institutions/forms.html) (last visited Feb. 26, 2013).

134. 31 U.S.C. § 5312(a)(2)(J).

135. 18 U.S.C. § 1956(a)(1).

136. Charles Thalen Plombek, *Confidentiality and Disclosure: The Money Laundering Control Act of 1986 and Banking Secrecy*, 22 INT’L LAW. 69, 71–72 (1988).

137. *Id.* at 72–73. Mr. Plombek notes in a footnote that “a currency exchanger who participates in a transaction with a known drug dealer involving hundreds of thousands of dollars in cash and accepts a commission far above the market rate, could not escape conviction simply by claiming that he did not know

A recent case has shed light on the applicability of money laundering statutes to institutions that exchange in independent digital currency. e-Gold was an early form of e-currency.<sup>138</sup> It claimed to back its currency with gold specie stored in St. Kitts and Nevis.<sup>139</sup> e-Gold accounts were allowed to be anonymous and transfers were irrevocable, making them a strong vehicle for those engaging in pyramid schemes,<sup>140</sup> get-rich-quick scams,<sup>141</sup> and pump-and-dump schemes.<sup>142</sup> For every transaction in e-Gold currency, the company received a share of the proceeds.<sup>143</sup> e-Gold was not registered or licensed as a money transmitting service.<sup>144</sup>

e-Gold founder Doug Jackson insisted that he was not aware of particular instances of crime despite its rampant existence on e-Gold.<sup>145</sup> After a visit from federal authorities, Jackson began to take a more proactive role in policing individuals who may have been using e-Gold to support criminal activity.<sup>146</sup> Although e-Gold users could set up anonymous accounts, Jackson was able to gather information on potential abusers when they traded their e-Gold for cash by giving an address or debit card account.<sup>147</sup> An FBI agent, who worked on the investigations of e-Gold fraudsters, noted that Jackson was “instrumental in helping track people down.”<sup>148</sup>

However, the cooperation was not enough to avoid indictment. e-Gold and particular members within the organization were charged and convicted based on a series of financially-related crimes.<sup>149</sup> First, they were charged with conspiracy to commit money laundering by conducting financial transactions that involved the proceeds of illegal activity.<sup>150</sup> They were also charged with transmitting funds without a license and criminal forfeiture.<sup>151</sup> The indictment noted that e-Gold allowed its users to remain anonymous, maintained staff without financial experience, and did not respond to customer complaints

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for sure that the currency involved in the transaction was derived from crime. On the other hand, an automobile dealer who sells a car at market rate to a person whom he merely suspects has involvement with crime, cannot be convicted of this offense in the absence of a showing that he knew something more about the transaction or the circumstances surrounding it.” *Id.* at 75 n.25.

138. 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>. e-Gold began in 1995 and its founder created it as an international currency that was free from government control. *Id.* Its gold backing supposedly made it superior to paper currency. *Id.*

139. Indictment at 14, *United States v. e-Gold, Ltd.*, No. 07-109 (D.D.C. 2007).

140. A pyramid scheme is where participants make money only by recruiting more participants, and not through the growth of the investment. *Pyramid Schemes*, U.S. SEC. & EXCH. COMM’N, <http://www.sec.gov/answers/pyramid.htm> (last updated Feb. 25, 2009).

141. Indictment, *supra* note 139, at 23; see Mark Herpel, *Experiences With High Yield Investment Programs (HYIPs)*, HELIUM (Aug. 24, 2007), <http://www.helium.com/items/550557-experiences-with-high-yield-investment-programs-hyips> (providing analysis on how much spending on e-Gold goes to scams).

142. Indictment, *supra* note 139. For a definition of pump-and-dump schemes, see *infra* Part III.A.2.

143. Indictment, *supra* note 139, at 27.

144. Zetter, *supra* note 138.

145. *Id.* (“e-[G]old had unwittingly become banker to the underworld.”).

146. *Id.*

147. *Id.*

148. *Id.*

149. Indictment, *supra* note 139; Zetter, *supra* note 138.

150. 18 U.S.C. § 1956 (2006); Indictment, *supra* note 139, at 29.

151. 18 U.S.C. § 982(a)(1) (2006); 18 U.S.C. § 1956; 18 U.S.C. § 1960 (2006); Indictment, *supra* note 139, at 50.

concerning fraud as evidence of its guilt.<sup>152</sup>

An alternate example of a similar business is PayPal. PayPal emerged because many small businesses could not accept credit cards when doing business online and sending checks or cash through the mail was not a feasible solution.<sup>153</sup> PayPal offered a solution through a peer-to-peer payment system—the company served as financial intermediary between two parties and did not require a buyer to give away sensitive credit information to the seller.<sup>154</sup> PayPal's growth was correlated with the growth of the online auction house giant, eBay.<sup>155</sup>

Like e-Gold, PayPal faced investigation for operating as a bank without a license because of its practice of allowing buyers to enter funds into their PayPal account in advance of selecting purchases.<sup>156</sup> However, PayPal received an opinion from the Federal Deposit Insurance Corporation (FDIC) stating that it was not a bank because it did not handle or hold funds placed into it and its funds were not FDIC-insured because PayPal was not chartered as a bank.<sup>157</sup> Even still, PayPal was advised to apply for a money-transmitter license and complied.<sup>158</sup> PayPal also took steps to detect fraud within its system by appointing a compliance officer, using fraud detection software, training employees to detect fraud, and keeping records of every transaction.<sup>159</sup> Of course, these steps add to the transaction costs for PayPal's service.<sup>160</sup>

Thus, PayPal and e-Gold collectively demonstrate a range of regulatory fates that could befall Bitcoin using the money laundering statutes.

#### 6. *Potential Defenses to Prosecution*

Even if Bitcoin was officially prohibited, potential defenses derive from the Uniform Commercial Code (UCC) and the First Amendment to the U.S. Constitution.

Regarding the UCC, NORFED claimed that Liberty Dollars were legal. On its website, there was a letter from June 10, 1998, written by attorney Paul J. Sulla.<sup>161</sup> Mr. Sulla argues that Liberty Dollar bills were paper receipts that demonstrated the purchaser paid \$10 for one ounce of .999 fine silver<sup>162</sup> to be stored in a warehouse pursuant to the terms on the instrument.<sup>163</sup> He asserted that the warehouse receipt itself is a transferable and negotiable instrument payable to the bearer and thus is legal under the UCC.<sup>164</sup>

152. Indictment, *supra* note 139, at 35.

153. Carl Kaminski, Note, *Online Peer-to-Peer Payments: PayPal Primes the Pump, Will Banks Follow?*, 7 N.C. BANKING INST. 375, 375 (2003).

154. *Id.* at 378–79.

155. *Id.* at 375.

156. *Id.* at 380–81.

157. *Id.* at 382–83.

158. *Id.* at 384–85.

159. *Id.* at 390.

160. *Id.* at 390. For PayPal's current costs per transaction, see *PayPal Merchant Fees*, *supra* note 29.

161. Sulla, *supra* note 78.

162. “.999 fine silver” refers to the coins being 99.9% pure silver.

163. Sulla, *supra* note 78 (citing U.C.C. § 2-503(4)(a) (2007)).

164. *Id.* (citing U.C.C. §§ 3104(a), 3-412 (2007)).

A warehouse receipt is a document that serves as evidence for the fact that someone owns title in goods that are being stored by another party.<sup>165</sup> In this case, the Liberty Dollars bills and coins are simply receipts for the silver that is being stored. Mr. Sulla points out that it is customary for silver dealers to warehouse their goods by lots determined by the receipts.<sup>166</sup> He further insists that the back of each Liberty Dollar houses the elements necessary for a warehouse receipt.<sup>167</sup> At the trial of von NotHaus, the court found this argument unavailing, as it was more concerned with the fact that the form of the receipt was confusingly similar to U.S. coins and dollars.<sup>168</sup>

Mr. Sulla also argued that use of Liberty Dollars is protected by the First Amendment as it is a form of “petition” seeking redress from the federal government, namely, the disbanding of the Federal Reserve and Internal Revenue Service.<sup>169</sup> The closest parallel is a string of cases involving a tax protest organization called the National Commodity and Barter Association (NCBA).<sup>170</sup> The organization engaged in commercial transactions and was the subject of several investigations concerning its suspected involvement in money laundering and tax evasion.<sup>171</sup> The Tenth Circuit found that the commercial aspect of the organization did not alter the protections of the First Amendment.<sup>172</sup> Thus, the U.S. government had to overcome its burden before issuing subpoenas to the NCBA, which would reveal the member list and have a chilling effect on the free speech of the members.<sup>173</sup>

However, this case and others with a similar message may not be as broad as Mr. Sulla alludes. It is true that the court noted that the “commercial aspect” of the organization did not forfeit its First Amendment protections.<sup>174</sup> Indeed, it forced the government to demonstrate an “overriding and compelling” state interest before issuing the subpoenas.<sup>175</sup> However, the court did not mention, at any point, that the money laundering statute or reporting regulation did not apply to the NCBA.<sup>176</sup>

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165. BLACK’S LAW DICTIONARY 1721 (9th ed. 2009).

166. Sulla, *supra* note 78.

167. *Id.* (noting U.C.C. § 7-202(2) (2007)).

168. Press Release, FBI, *supra* note 83.

169. Sulla, *supra* note 78 (citing Nat’l Commodity & Barter Ass’n v. United States, 951 F.2d 1172, 1174 (10th Cir. 1991)); *see also* Pleasant v. Lovell, 876 F.2d 787, 795 (10th Cir. 1989); *In re* First Nat’l Bank, Englewood, Colo., 701 F.2d 115, 118–19 (10th Cir. 1983) (in error, Mr. Sulla cited “Granbouche v. US 701 F.2d 1172 (1983)”).

170. *See generally* Nat’l Commodity, 951 F.2d at 1174 (listing several cases in which NCBA offered first amendment defenses against federal charges); Pleasant, 876 F.2d at 795 (listing previous cases involving the first amendment rights of NCBA members).

171. Pleasant, 876 F.2d at 789–90.

172. *Id.* at 795.

173. *Id.* at 793.

174. *Id.* at 795.

175. Nat’l Commodity, 951 F.2d at 1175; *see also* Pleasant, 876 F.2d at 795 (noting that the government’s requirement of disclosure, when a group wishes to remain anonymous, can be a form of infringement on free speech).

176. *See* Nat’l Commodity, 951 F.2d at 1175 (stating that a grand jury is investigating the statutory violations); Pleasant, 876 F.2d at 795 (holding that NCBA members’ claims are barred on the grounds of absolute immunity without addressing the issue of whether the NCBA was obligated under the money laundering statute or reporting regulation).

### III. ANALYSIS

Effective regulation of Bitcoin would theoretically capture or maximize the positive attributes of Bitcoin, while minimizing the negative attributes. Part (A) of this section will examine the real-world effects of Bitcoin. Part (B) will identify the best legal framework for regulating Bitcoin's faults while promoting its best attributes.

#### A. *The Ramifications of Bitcoin*

There are several qualities that make Bitcoin appealing and useful. First, its electronic nature makes it highly transferable.<sup>177</sup> Anyone who can access the Internet can download a Bitcoin wallet and store it on his or her computer.<sup>178</sup> Transfers can occur instantaneously without need for an institutional third party to verify the transaction, such as a bank in a traditional wire transfer. However, it should be noted that the gain in transaction cost over a business like Dwolla and PayPal is merely marginal.<sup>179</sup>

Because most intermediaries can be eliminated, Bitcoin has low transaction costs.<sup>180</sup> The only "cost" of a transaction is the computer-processing work needed to solve block chains,<sup>181</sup> and most computers have spare capacity for this process.<sup>182</sup> Essentially, transaction costs can amount to nothing.

Bitcoin also has potential to serve as a "metacurrency"—a currency that bridges international legal tenders—and could compete with businesses like Western Union in this realm.<sup>183</sup> It has also provided liquidity in locations where cash is hard to come by. For example, in Iran, many citizens have used Bitcoin in response to the lack of currency in the economy.<sup>184</sup> Some claimed that Bitcoin's steady release of currency into the system was a cure for inflation.<sup>185</sup> But that claim is disputed.<sup>186</sup>

Finally, Bitcoin allows users to make legitimate donations and purchases

177. *What Is a Good Way to Concisely Explain Bitcoin?*, WE USE COINS, <http://bitcoin.stackexchange.com/questions/336> (last visited Feb. 3, 2013).

178. *Getting Started*, WE USE COINS, <http://www.weusecoins.com/getting-started.php> (last visited Feb. 3, 2013).

179. *Supra* note 29 and accompanying text.

180. Nakamoto, *supra* note 10, at 8.

181. The block chain is the agreed-upon ownership history of each Bitcoin. Transaction costs may be negligible, but *mining* costs are not necessarily moot. See Wallace, *Rise and Fall*, *supra* note 15 (describing how miners invested in souped-up machines and grew tired of burdensome energy bills).

182. See Ryan Broderick, *How to Get Rich on Bitcoin by a System Administrator Who's Secretly Growing Them on His School's Computers*, MOTHERBOARD (May 27, 2011), <http://www.motherboard.tv/2011/5/27/how-to-get-rich-on-bitcoin-by-a-system-administrator-who-s-secretly-growing-them-on-his-school-s-computers> [hereinafter Broderick, *Administrator*] (explaining how computers can covertly solve block chains).

183. Lee, *supra* note 41.

184. Max Raskin, *Dollar-Less Iranians Discover Virtual Currency*, BLOOMBERG BUSINESSWEEK (Nov. 29, 2012), <http://www.businessweek.com/articles/2012-11-29/dollar-less-iranians-discover-virtual-currency>.

185. J.P., *supra* note 14.

186. Lee, *supra* note 41 ("Bitcoin boosters forget that the value of a currency is based on supply and demand. . . . [D]emand for Bitcoin . . . fluctuate[s] wildly.").

anonymously.<sup>187</sup> This is a benefit in cases where an individual may not want to be associated with a transaction, even if that transaction is perfectly legal. For example, a controversial organization such as WikiLeaks could receive support from individuals without those donors fearing damaging association and accusation. Despite some positive attributes, there are plenty of reasons to find Bitcoin disconcerting. These include both (1) criminal concerns and (2) market concerns.

### 1. *Bitcoin as a Criminal Vehicle*

Considering Bitcoin has no physical properties, it would be reasonable to think that an adept hacker would be able to create them out of nothing. However, this is less likely than it may initially seem. A deeper understanding of how Bitcoins make and validate transactions will help illustrate this assertion.

Counterfeiting can occur by double-spending Bitcoins. However, the public nature and verification of the transactions makes this process difficult to do. A Bitcoin contains the address of its current holder.<sup>188</sup> Essentially, when the owner is seeking to transfer a Bitcoin, she records the new public address on the Bitcoin and signs the Bitcoin with her own private key.<sup>189</sup>

The best way for a savvy hacker to counterfeit Bitcoins is to develop a way to seemingly spend a Bitcoin, while maintaining a “copy” for herself, complete with a legitimate block chain history.<sup>190</sup> However, in order to prevent this kind of double-spending, Bitcoin contains a validation system.<sup>191</sup> Whenever a proposed transaction is made, it is broadcast to the entire system.<sup>192</sup> To validate the transaction, the system works collectively to create a timestamp for the block chain.<sup>193</sup> This signature identifies that a particular Bitcoin has been transferred at a particular time.<sup>194</sup> If a user were to try to double-spend her copied Bitcoin, the system would recognize that another Bitcoin, with a matching block chain, had already been notarized and would refuse to validate any further transactions.<sup>195</sup>

Validating these transactions requires the system to have a massive number of Central Processing Units (CPUs). Since Bitcoin lacks infrastructure, there are no formal servers or systems to manage the validation process.<sup>196</sup> Instead, users of Bitcoin volunteer their computers’ CPUs.<sup>197</sup> To incentivize this behavior, Bitcoins are “mined”; as one volunteers CPU power,

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187. BITCOINS FOR CHARITY, *supra* note 33.

188. *Address*, *supra* note 17.

189. *Id.*

190. Nakamoto, *supra* note 10, at 2.

191. *Id.*

192. *Id.*

193. *Id.* at 3.

194. *Id.* at 2.

195. *Id.* at 3.

196. *Id.* at 1.

197. *What Is a Good Way to Concisely Explain Bitcoin?*, *supra* note 177.

their computer has a random chance of receiving Bitcoins for the work.<sup>198</sup>

Counterfeiting can still occur through a “brute force” attack—where an attacking hacker simply uses CPU power greater than the combined power of all the honest members of the system in order to falsely validate the spending of coins.<sup>199</sup> However, the system as a whole disincentivizes this behavior in two ways. First, the incentive system invites a large number of users to volunteer their CPUs thereby increasing the amount of brute force needed to compromise the system.<sup>200</sup> Secondly, if the hacker has access to such a large amount of CPU power, she stands to make a lot of money at little risk by using that power to mine for Bitcoins instead of trying to counterfeit them.<sup>201</sup> It is possible that this safeguard is worthy; as of yet, there are no reported instances of double-spending within the Bitcoin system.

However, protection against counterfeiting does not mean that Bitcoins cannot simply be stolen. This can occur when a hacker gains control of a user’s private key and uses it to sign transactions that the true user is not aware of and would not consent to.<sup>202</sup> Although the validation process exists, its sole concern is making sure that one Bitcoin is not spent more than once. It does not and cannot validate whether the signing of a transaction was made with consent by the proper owner.

There have been several actual instances of hackers developing tools to falsely gain private key information and then using that information to steal Bitcoins. Thieves have several opportunities to determine who owns a lot of Bitcoins and discover the details of their information. For example, a website called bitcoinreport.com posts a list of the public addresses that hold the greatest number of Bitcoins.<sup>203</sup> This gives attackers a better idea of who to target within the system. A sophisticated hacker or investigator can use the Bitcoin forums to find connections to the owner’s nickname or even real name.<sup>204</sup> Another site associates addresses with the age of the wallet, the number of transactions, the size of the wallet, and the number of Bitcoins that it holds.<sup>205</sup> A hacker is able to collect a great deal of information on a targeted victim.

Hackers have a number of tools to compromise a legitimate user’s wallet. In April 2011, a program called “Stealthcoin” debuted.<sup>206</sup> The program uses compromised computers as “zombies” and has them mine for Bitcoins at a

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198. Nakamoto, *supra* note 10, at 4.

199. *Id.*

200. See Wallace, *Rise and Fall*, *supra* note 15 (describing how Bitcoin mining grew quickly as value was discovered).

201. Nakamoto, *supra* note 10, at 4.

202. *Bitcoin Theft – The Top Ten Threats*, GENESYS GURU BLOG, <http://genesysguru.com/blog/blog/2011/06/17/bitcoin-theft-the-top-ten-threats/> (last updated June 23, 2011) [hereinafter *Top Ten Threats*].

203. BITCOIN REP., <http://bitcoinreport.appspot.com/> (last updated Dec. 3, 2011, 11:53 PM).

204. BITCOIN FORUM, <http://forum.bitcoin.org/> (last visited Feb. 26, 2013). The hacking process is described in detail in *Top Ten Threats*, *supra* note 202.

205. BITCOIN BLOCK EXPLORER, <http://blockexplorer.com/> (last visited Feb. 26, 2013).

206. *Stealthcoin*, or “*Bitcoin: Botnet Edition*,” BITCOIN MINER (Apr. 19, 2011, 1:35 PM), <http://www.bitcoinminer.com/post/4755112500/stealthcoin-introduced> [hereinafter *Stealthcoin*].

slow rate to minimize harm to the victim.<sup>207</sup> The mined Bitcoins, of course, go to the “herder” and not the owner of the computer who mined it.<sup>208</sup> In another instance, an information technology administrator for a school purportedly used a Daemon script—a program that causes other computers to take specific actions—called “Botnet” to have the school system’s computers mine Bitcoins when no one was using them.<sup>209</sup> In June of 2011, a Trojan—a virus that, to a computer, appears to be a non-threatening program—called “Infostealer.Coinbit” was discovered that targets a Windows user’s default place for a Bitcoin wallet and then would email the wallet to the thief.<sup>210</sup>

These infractions may seem minor, but the theft of Bitcoins can occur on a massive level. Symantec, a software security company, has surmised that Botnet is able to garner approximately \$100,000 (U.S. dollars, not Bitcoin) *monthly* for herders using compromised computers.<sup>211</sup> As for Infostealer, one Bitcoin user has reported that he lost approximately \$500,000 U.S. dollars’ worth of Bitcoins on June 13, 2011.<sup>212</sup> Symantec and the victim suspected that Infostealer.Coinbit was responsible for draining the account.<sup>213</sup> Several days later, Mt. Gox, the largest Bitcoin exchange, which accounts for 90% of all Bitcoin/U.S. dollars trading, was compromised.<sup>214</sup> The hacker stole about \$8,750,000 U.S. dollars in Bitcoins, approximately a thirteenth of all the Bitcoins in existence.<sup>215</sup> An hour later, a hacker claimed credit and posted, “I have hacked into mtgox [sic] database. Got a huge number of logins [sic] password combos. Mtgox [sic] has fixed the problem now. Too late, cause [sic] I’ve already got the data. Will sell the database for the right price. Send your offers . . . .”<sup>216</sup> The exchange suspected that the hacker was able to succeed with a brute force attack against “unsalted”<sup>217</sup> passwords that were relatively vulnerable.<sup>218</sup>

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207. *Id.* A zombie computer is one that has been compromised and can be manipulated into taking certain actions by a hacker. *Zombie*, WEBOPEDIA, <http://www.webopedia.com/TERM/Z/zombie.html> (last visited Feb. 11, 2013).

208. *Stealthcoin*, *supra* note 206.

209. Broderick, *Administrator*, *supra* note 182.

210. Ken Poulsen, *New Malware Steals Your Bitcoin*, WIRED (June 16, 2011, 8:58 PM), <http://www.wired.com/threatlevel/2011/06/bitcoin-malware/>.

211. Peter Coogan, *Bitcoin Botnet Mining*, SYMANTEC (June 17, 2011), <http://www.symantec.com/connect/blogs/bitcoin-botnet-mining>.

212. J.P., *supra* note 14; Tim Worstall, *Bitcoin: The First \$500,000 Theft*, FORBES (June 17, 2011, 1:09 PM), <http://www.forbes.com/sites/timworstall/2011/06/17/bitcoin-the-first-500000-theft/>.

213. Steve Ragan, *Malware Targeting Bitcoins Suspected in Recent Theft*, TECH HERALD (June 17, 2011, 6:00 AM), <http://www.thetechherald.com/article.php/201124/7283/Malware-targeting-Bitcoins-suspected-in-recent-theft>.

214. Jason Mick, *Inside the Mega-Hack of Bitcoin: The Full Story*, DAILY TECH (June 19, 2011, 6:40 PM), <http://www.dailytech.com/Inside+the+MegaHack+of+Bitcoin+the+Full+Story/article21942.htm> [hereinafter Mick, *Mega-Hack*].

215. *Id.*

216. *Id.*

217. Instead of cracking a firewall, one way a hacker can gain unauthorized entry is by loading a password on running memory to gain access to a nearby web server and then enter PCs within the network. Chris Hummel, SANS Inst., *Why Crack When You Can Pass the Hash? 2* (Oct. 12, 2009) (unpublished), available at [http://www.sans.org/reading\\_room/whitepapers/testing/crack-pass-hash\\_33219](http://www.sans.org/reading_room/whitepapers/testing/crack-pass-hash_33219). Salting randomizes the password hash to keep a pass-the-hash attack from occurring because the password becomes obsolete on running memory. *Id.* at 3.

218. Mick, *Mega-Hack*, *supra* note 214.

There are several ways users can be protected from theft. First, they can encrypt their wallet in order to keep Infostealer.Coinbit from snatching it away.<sup>219</sup> Or, wallets can be stored in a dedicated virtual machine system that Infostealer.Coinbit can't reach.<sup>220</sup>

Bitcoin users are also developing their own methods of investigation so that they can track Bitcoin thieves. Internal investigators can use the public data available to show a public key's association with other public keys.<sup>221</sup> They then use this data to create maps of networks.<sup>222</sup> From these maps, they can draw conclusions about transactions that seem suspicious because they involve a user outside the normal network, occur at an unusual time, or pertain to an unusually large amount of Bitcoins.<sup>223</sup> Thus, the addresses of thieves and conspiracies can be identified.<sup>224</sup> These public keys cannot be linked to any one individual and therefore have limited use, but services such as the Bitcoin Faucet, which publishes the IP addresses of those it gives coins to, and voluntary disclosures on the Bitcoin forums can provide further personal details on alleged thieves.<sup>225</sup>

There is also potential for criminals to use Bitcoins to cover their tracks of ill-gotten gains. For example, a tech-savvy drug dealer could convert his cash into Bitcoins and then disperse them among a multitude of wallets. Then, as the criminal needed cash, he could reconvert the Bitcoins into U.S. dollars. Since the wallets are public but contain no information on the user, it could be quite a challenge for investigators to sort out the criminal's pattern for laundering cash.<sup>226</sup>

As noted in the Background, in order to hamper money laundering, financial institutions must report any transaction over \$10,000.<sup>227</sup> Bitcoin exchanges have thus far not begun reporting.<sup>228</sup> Yet, due to increased pressure from various government bodies, Bitcoin Exchanges have begun to offer aid to investigating agencies by voluntarily reporting suspicious transactions and offering money-laundering aid.<sup>229</sup> The FBI has issued a report requiring that Bitcoin exchanges comply with the money laundering statutes.<sup>230</sup> Furthermore, gains from exchange transactions are supposed to be reported to

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219. Poulsen, *supra* note 210.

220. Ragan, *supra* note 213. A virtual machine stores the Bitcoins in a non-physical location, but this creates other security concerns. See Ken Hess, *Virtual Machines Are No Security Blanket*, LINUX MAG. (Jan. 11, 2010), <http://www.linux-mag.com/id/7665/> ("Virtual machines are no more secure than physical ones.")

221. Reid & Harrigan, *supra* note 19, at 3.

222. *Id.* at 4–7.

223. *Id.* at 10–12.

224. *Id.* at 11–12.

225. *Id.* at 7–8; see also BITCOIN BLOCK EXPLORER, *supra* note 205; BITCOIN REP., *supra* note 203 (providing additional information on Bitcoin users).

226. BITCOIN LAUNDRY (BETA), <http://bitcoinlaundry.com> (last visited Feb. 26, 2013) (offers to launder Bitcoins by receiving coins and sending ones with different block chains back to the sender).

227. 31 U.S.C. § 5313(a) (2006); 31 C.F.R. § 103.22 (2012).

228. Brett Wolf, *Bitcoin Exchanges Offer Anti-Money-Laundering Aid*, REUTERS (June 15, 2011, 6:01 PM), <http://www.reuters.com/article/2011/06/15/financial-bitcoin-idUSN1510930920110615>.

229. *Id.*

230. FED. BUREAU OF INVESTIGATION, BITCOIN VIRTUAL CURRENCY: UNIQUE FEATURES PRESENT DISTINCT CHALLENGES FOR DETERRING ILLICIT ACTIVITY 8 (2012), available at [http://www.wired.com/images\\_blogs/threatlevel/2012/05/Bitcoin-FBI.pdf](http://www.wired.com/images_blogs/threatlevel/2012/05/Bitcoin-FBI.pdf).

the Internal Revenue Service (IRS) using Form 1099(b).<sup>231</sup> This includes gains made from trading in Bitcoins. However, due to the anonymous nature of the addresses on Bitcoin accounts, the IRS will struggle to enforce taxation on Bitcoin trading gains.

Finally, as noted in the Introduction, Bitcoins are ideal for purchasing illicit goods or supporting illegitimate groups. Not only are they anonymous, but they do not require a bank account for purchase, which means that an investigating authority cannot freeze it for seizure.<sup>232</sup> Silk Road is not the only way to illegally spend Bitcoins; some consider Bitcoin to be an ideal way to skirt the federal prohibition on online gambling.<sup>233</sup> Some individuals have given anonymous donations to criminal organizations. When LulzSec hackers cracked into Sony's Playstation Network, stole its source code for the Sony Computer Entertainment's Developer Network, and posted it online, LulzSec claimed that an individual donated \$7,200 U.S. dollars' worth of Bitcoins to their cause.<sup>234</sup>

Although counterfeiting is not a concern for Bitcoin, there are a number of reasons to be concerned with the currency's criminal uses.

## 2. *Bitcoin as a Vulnerable Market*

Criminal activity aside, there are also market failures that make Bitcoin vulnerable. Critics have expressed concern over Bitcoin's limited liquidity, its tendency towards hyper-fluctuation, its long-term deflationary vulnerability, its susceptibility to pump-and-dump scams, and its bias toward early adopters.

One major concern for Bitcoin exchanges is liquidity. Mt. Gox does not accept credit/debit transactions, and PayPal refuses to service Mt. Gox, citing a policy against virtual currencies.<sup>235</sup> TradeHill, a large U.S. exchange, has suspended trading due to liquidity concerns.<sup>236</sup> This leaves a number of unusual ways to convert U.S. dollars into Bitcoins. One way is to use Liberty Reserve—a private exchange system based in Costa Rica that will allow a client to put dollars into an account and then trade that money on a Bitcoin exchange.<sup>237</sup> Another method is to mail a personal check directly to the Mt. Gox exchange and direct it to an individual named “Morpheus,” who will

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231. *Instructions for Form 1099-B*, IRS, <http://www.irs.gov/instructions/i1099b/ar02.html> (last visited Feb. 26, 2013).

232. Andy Greenberg, *Crypto Currency*, FORBES (Apr. 20, 2011, 6:00 PM), <http://www.forbes.com/forbes/2011/0509/technology-psilocybin-bitcoins-gavin-andresen-crypto-currency.html>; Don Reisinger, *Senators Target Bitcoin Currency, Citing Drug Sales*, CNET NEWS (June 9, 2011, 7:48 AM), [http://news.cnet.com/8301-13506\\_3-20070268-17/senators-target-bitcoin-currency-citing-drug-sales/](http://news.cnet.com/8301-13506_3-20070268-17/senators-target-bitcoin-currency-citing-drug-sales/).

233. Timothy B. Lee, *Bitcoin-Based Gambling to Expand in 2013*, ARS TECHNICA (Jan. 4, 2013, 1:45 PM), <http://arstechnica.com/tech-policy/2013/01/bitcoin-based-gambling-to-expand-in-2013/>.

234. Parmy Olson, *LulzSec Hackers Post Sony Dev. Source Code, Get \$7K Donation*, FORBES (June 6, 2011, 12:57 PM), <http://blogs.forbes.com/parmyolson/2011/06/06/lulzsec-hackers-posts-sony-dev-source-code-get-7k-donation/>.

235. Mick, *Black Friday*, *supra* note 26.

236. Evan Applegate, *Bitcoin Exchange Shuttered; Nerds Rattled*, BLOOMBERG (Feb. 17, 2012, 1:03 AM), <http://www.businessweek.com/technology/bitcoin-exchange-shuttered-nerds-rattled-02172012.html>.

237. Mick, *Black Friday*, *supra* note 26; *What Is Liberty Reserve*, LIBERTY RES., <http://www.libertyreserve.com/en/help/whatis> (last visited Mar. 10, 2013).

exchange cash for Bitcoins.<sup>238</sup> The final method of exchange involves purchasing Linden Dollars on Second Life and then converting the Linden Dollars into Bitcoins.<sup>239</sup> Regardless, these cumbersome methods leave individuals who seek to trade out of Bitcoins during a period of price fluctuation without a quick way to do so.

A concern for price fluctuation is not ill-founded. The price of Bitcoins has seen marked variation in the past year. Early in 2011, Bitcoins were worth approximately \$0.30.<sup>240</sup> In May and June of 2011, the price of Bitcoins inflated rapidly from \$1 to \$30.<sup>241</sup> Then, on June 10, the Bitcoin market lost 30% of its value in one day; Bitcoin prices dropped from \$28.919 to \$20.01 U.S. dollars.<sup>242</sup> When Mt. Gox was hacked on June 19, and \$8.75 million U.S. dollars were stolen, the exchange went into free fall: Bitcoins sold for pennies on the dollar, and the exchange was forced to negate a number of transactions, rolling back Bitcoin prices to about \$17.<sup>243</sup> Appendix 2 shows two graphs: one illustrates the inflation of the Bitcoin bubble from July of 2010 to June 2011; the other illustrates the collapse of the Bitcoin on June 19.<sup>244</sup>

New Bitcoins are mined by computers at a fixed rate that will eventually reach 21,000,000.<sup>245</sup> After 2030, when 21,000,000 coins have been mined, no more Bitcoins will be “discovered” and unless Bitcoins are counterfeited the number of coins in the system will remain constant.<sup>246</sup> The philosophy behind this is to protect Bitcoins from market fluctuations.<sup>247</sup> For example, if a new large gold reserve is discovered, the price of gold will drop.<sup>248</sup> However, this solution gives rise to a number of other concerns. First, there is a long-term possibility for deflation.<sup>249</sup> Bitcoin’s price will fall as mining slows because individuals will begin to hoard their Bitcoins. Second, the incentive for volunteering CPU power is eliminated, which means fewer individuals will actively be involved in validating transactions. This leaves the whole system vulnerable to a brute force attack. Bizarrely, if this were to occur, the result would be an influx of double-spent counterfeit coins, which would increase the

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238. Bitcoin Morpheus, *How to Buy Mt Gox USD With a Check or Money Order*, TUMBLR, [http://bitcoinmorpheus.tumblr.com/how\\_to\\_buy\\_mt\\_gox\\_usd\\_with\\_a\\_check\\_or\\_money\\_order](http://bitcoinmorpheus.tumblr.com/how_to_buy_mt_gox_usd_with_a_check_or_money_order) (last visited Feb. 26, 2013); Mick, *Black Friday*, *supra* note 26.

239. Mick, *Black Friday*, *supra* note 26.

240. J.P., *supra* note 14.

241. Mick, *Mega-Hack*, *supra* note 214.

242. Mick, *Black Friday*, *supra* note 26.

243. Mick, *Mega-Hack*, *supra* note 214.

244. Richard Chirgwin, *Bitcoin Collapses on Malicious Trade—Mt. Gox Scrambling to Raise the Titanic*, REGISTER (June 19, 2011, 10:07 PM), [http://www.theregister.co.uk/2011/06/19/bitcoin\\_values\\_collapse\\_again/](http://www.theregister.co.uk/2011/06/19/bitcoin_values_collapse_again/) (graph of the Bitcoin crash); John Robb, *The Bitcoin Bubble*, GLOBAL GUERRILLAS (June 6, 2011, 10:00 PM), <http://globalguerrillas.typepad.com/globalguerrillas/2011/06/the-bitcoin-bubble.html> (graph of the steady climb in Bitcoin prices).

245. *What Is a Good Way to Concisely Explain Bitcoin?*, *supra* note 177.

246. J.P., *supra* note 14.

247. *Id.*

248. See generally DAVID MILLER BARBOUR, *THE INFLUENCE OF THE GOLD SUPPLY ON PRICES AND PROFITS 14–18* (1913) (describing the impact of increases in the gold supply on market prices).

249. Paul Krugman, *Golden Cyberfettlers*, N.Y. TIMES (Sept. 7, 2011, 12:00 AM), <http://krugman.blogs.nytimes.com/2011/09/07/golden-cyberfettlers/>. For an ideologically-based counter-argument, see Jon Matonis, *Fear Not Deflation*, FORBES (Dec. 23, 2012, 12:01 PM), <http://www.forbes.com/sites/jonmatonis/2012/12/23/fear-not-deflation/>.

amount of coins in the system, which could crack the deflationary cycle.

There is also a risk for individuals to use Bitcoins for pump-and-dump scams. A pump-and-dump scam occurs when an individual owns an investment that they maliciously encourage others to purchase, thereby “pumping” up the price.<sup>250</sup> The scammer, knowing that this price is inflated and unsustainable, rides the investment to the top of its price and then sells off his investment.<sup>251</sup> Bitcoin is particularly susceptible to these sorts of scams because there is a small amount of coins and few transactions.<sup>252</sup> Thus, just a couple hundred trades can change the price dramatically.<sup>253</sup> Furthermore, Bitcoins are traded and hoarded among a niche group of tightly knit enthusiasts. A credible scammer could have great influence using blogs and message boards.<sup>254</sup>

The mining of coins and the plateau of Bitcoin supply in 2030 creates a bias toward early adopters. An advantage exists to those who commit CPU now, particularly for those with faster computers and more resources.<sup>255</sup> A wealth gap among Bitcoin holders may occur because a relatively small group can afford the amount of CPU it takes to create new block chains en masse.<sup>256</sup> This is particularly true when one considers the disproportionate effect programs such as Botnet can have on the creation and possession of Bitcoins. The long-term effect is the creation of an oligarchical class of Bitcoin hoarders, which will do damage to the liquidity, utility, and democratic spirit of Bitcoin.

## B. How to Best Regulate Bitcoin

### 1. Counterfeiting

To properly examine whether Bitcoin is a form of counterfeiting, one must first examine the rationale of the prosecution and the court in the Liberty Dollars case. Next, one must examine the differences between Liberty Dollars and Bitcoin not just as a currency, but as an organization. Finally, one can consider the policy implications of using the counterfeiting laws to regulate Bitcoin.

The FBI noted that it was illegal for individuals to create currency systems that attempted to compete with U.S. legal tender.<sup>257</sup> If the FBI’s statement is to be read broadly, it would seem to certainly implicate Bitcoin.

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250. “Pump-and-Dumps” and Market Manipulations, U.S. SEC. & EXCHANGE COMMISSION, <http://www.sec.gov/answers/pumpdump.htm> (last visited Mar. 10, 2013).

251. *Id.*

252. Mick, *Black Friday*, *supra* note 26.

253. This is exacerbated by the fact that most Bitcoins are hoarded and not spent. Dorit Ron & Adi Shamir, Quantitative Analysis of the Full Bitcoin Transaction Graph 13 (2012) (unpublished), available at <http://eprint.iacr.org/2012/584.pdf>.

254. See *Top Ten Threats*, *supra* note 202 (demonstrating how much information Bitcoin users are willing to give away on the Internet).

255. Nathan Willis, *Bitcoin: Virtual Money Created by CPU Cycles*, LWN.NET (Nov. 10, 2010), <http://lwn.net/Articles/414452/>.

256. Wallace, *Rise and Fall*, *supra* note 15 (elaborating on “mining-rig porn”—photos of expensive, souped-up computers to better mine Bitcoins).

257. Press Release, FBI, *supra* note 83.

Yet, it is quite likely that private currencies are not per se illegal. But rather, Liberty Dollars fall within the purview of counterfeiting due to their particular use of symbols that are or could be used for American currency, as well as the adoption of terms such as “dollars,” “USA,” and “Trust in God.”<sup>258</sup> Furthermore, the advertisements noted Liberty Dollars were “real money,” “constitutional,” and “legal.”<sup>259</sup> Thus, in this instance, there was a real chance a purchaser could buy Liberty Dollars under the false belief that she was purchasing a new or rare minting of U.S. dollars or coins.

As an e-currency, Bitcoin cannot physically contain images associated with U.S. legal tender. As seen in Appendix A.2, the “image” of the Bitcoin, really just a logo, is simply a cartoon coin with a stylized “B.”<sup>260</sup> Bitcoin does advertise itself as a “currency.” Yet it avoids any claims of legality or “constitutionality.”<sup>261</sup> Thus, from the perspective of a litigator, the argument that Bitcoin is on par with Liberty Dollars is a strained one, particularly because the trial judge removed the “compete” clause from the indictment before jury deliberations.<sup>262</sup>

For the purposes of enforcement, the differences between how Bitcoin and Liberty Dollars derive their value are even more important. Liberty Dollars were backed by specie stored in warehouses.<sup>263</sup> Thus, when the FBI seized the specie in the warehouses, the bills lost their value.<sup>264</sup> However, Bitcoins are backed by no specie.<sup>265</sup> Although mining the Bitcoins requires computing power, their value is derived completely by supply and demand—they have no inherent value.<sup>266</sup> Thus, even if a compelling argument could be made that the counterfeiting statute applies to *all* private currencies, the logistics of seizing Bitcoins becomes extremely problematic.<sup>267</sup>

Liberty Dollars, to the benefit of the FBI, had a face to their organization through Bernard von NotHaus.<sup>268</sup> Thus, when von NotHaus was found guilty of counterfeiting, Liberty Dollars lost their figurehead. The case is different

258. Press Release, U.S. Mint, *supra* note 72.

259. *Frequently Asked Questions*, *supra* note 75.

260. BITCOIN, <http://bitcoin.org/> (last visited Mar. 10, 2013).

261. *See What Is a Good Way to Concisely Explain Bitcoin?*, *supra* note 177 (explaining that Bitcoin is already utilized in today’s market).

262. Lipsky, *supra* note 86.

263. Sulla, *supra* note 78.

264. Personal Blog of Dustin D. Trammel, *The Problem With the Liberty Dollar*, DUSTIN D. TRAMMEL, <http://blog.dustintrammell.com/2008/12/07/the-problem-with-the-liberty-dollar/> (last visited Feb. 26, 2013) (complaining that the Liberty Dollar warehouse receipts he holds after the FBI raid are “essentially worthless except for their collector’s value”).

265. *See generally* Nakamoto, *supra* note 10.

266. Lee, *supra* note 41.

267. Of course, the government could delete the wallets to destroy the Bitcoins (at least those that weren’t saved and backed-up by more cautious users). *Securing Your Wallet*, BITCOIN WIKI, [https://en.bitcoin.it/wiki/Securing\\_your\\_wallet](https://en.bitcoin.it/wiki/Securing_your_wallet) (last visited Mar. 10, 2013). However, the algorithm for Bitcoins is based on the number of block chains in the system. *Controlled Supply*, BITCOIN WIKI, [https://en.bitcoin.it/wiki/Controlled\\_Currency\\_Supply](https://en.bitcoin.it/wiki/Controlled_Currency_Supply) (last visited Feb. 26, 2013). If there are fewer block chains, mining Bitcoins will simply become easier in order to get the number of Bitcoins in the system back on track. *Id.* Or, put another way, seizing and destroying a lot of wallets, only makes those who are left mining for Bitcoins more wealthy, with more control over their relative share of all Bitcoins. And, ironically, a government-created oligopoly of Bitcoin holders just increases the capacity for fraud.

268. Williamson, *supra* note 71.

for Bitcoin. Satoshi Nakamoto created the Bitcoin algorithm,<sup>269</sup> but the name is most likely an alias, and not even hardcore Bitcoin users know Nakamoto personally.<sup>270</sup> Even if prosecutors were able to identify Nakamoto, they could be facing a proverbial Spartacus,<sup>271</sup> where another person would step forward within the Bitcoin community and assume the role of figurehead.

Finally, prosecutors must consider the fact that Bitcoins are not the only digital currency. For example, Second Life, a massive-multiplayer online game,<sup>272</sup> has a fiat currency called Linden Dollars, which is backed by money held by Linden Labs.<sup>273</sup> Within Second Life, users create avatars and can create their own online businesses that use Linden Dollars as a currency.<sup>274</sup> For a time, Second Life was praised as the next major iteration of the Internet, an opportunity for many tech entrepreneurs to cut their teeth.<sup>275</sup> This is not to say that Linden Dollars are a shining example of what e-commerce can be,<sup>276</sup> but rather, prosecutors should avoid destroying the technological and economic possibilities of e-currency in a zealous attempt to topple Bitcoin.

## 2. *Stamp Payments Act*

Alternately, the government could choose to argue that Bitcoin falls within the purview of the Stamp Payments Act. The purpose of the Stamp Payments Act was to encourage the use of greenbacks.<sup>277</sup> Unlike the “currencies” in *Van Auken* and *Monongahela*, Bitcoins are not for payment in goods and are not limited to a specific geographic area.<sup>278</sup> Furthermore, unlike the tokens in *Gellman*, Bitcoins are intended to be used as currency, and people are regularly convinced into accepting them as such.<sup>279</sup> The question turns on whether Bitcoin competes with U.S. coin. Indeed, it is hard to argue that, were it not for Bitcoin, quarters and dimes would be shipped to pay for goods over the Internet. Of course, if one takes a more comprehensive view of the term “coin” as part of a collective monetary system, the argument that Bitcoin

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269. See generally Nakamoto, *supra* note 10.

270. There are some guesses as to who Satoshi Nakamoto is. These include a team at Google, Bitcoin developer Gavin Andresen, WikiLeaks founder Julian Assange, and a combination of the corporate monikers: Samsung TOSHIBA NAKAmichi MOTORola. Wallace, *Rise and Fall*, *supra* note 15.

271. In the film, dozens of men claim, “I am Spartacus!” and face crucifixion rather than give up their brother-in-arms. SPARTACUS (Universal Pictures 1960). It should be noted that “I am Satoshi Nakamoto” shirts have already been sold. Wallace, *Rise and Fall*, *supra* note 15.

272. MMORPGs are games that allow thousands of players to interact with each other in a virtual world. *MMORPG*, WEBOPEDIA, <http://www.webopedia.com/TERM/M/MMORPG.html> (last visited Feb. 26, 2013).

273. *Hey Buddy, Can You Spare a Linden Dollar?*, FORBES (Oct. 21, 2005, 6:00 AM), [http://www.forbes.com/2005/10/20/onlinegaming-worldofwarcraft-gaming-cx\\_1021wharton.html](http://www.forbes.com/2005/10/20/onlinegaming-worldofwarcraft-gaming-cx_1021wharton.html).

274. David Kirkpatrick, *Second Life: It's Not a Game*, CNN MONEY (Jan. 23, 2007, 2:24 PM), [http://money.cnn.com/2007/01/22/magazines/fortune/whatsnext\\_secondlife.fortune/index.htm?postversion=2007012211](http://money.cnn.com/2007/01/22/magazines/fortune/whatsnext_secondlife.fortune/index.htm?postversion=2007012211).

275. *Id.*

276. David Talbot, *The Fleecing of the Avatars*, MIT TECH. REV. (Dec. 18, 2007), [http://www.technologyreview.com/printer\\_friendly\\_article.aspx?id=19844](http://www.technologyreview.com/printer_friendly_article.aspx?id=19844).

277. Sarah Jane Hughes, *A Case for Regulating Cyberpayments*, 51 ADMIN. L. REV. 809, 812 n.10 (1999).

278. *United States v. Van Auken*, 96 U.S. 366, 369 (1877); *United States v. Monongahela Bridge Co.*, 22 F. Cas. 1292, 1293 (W.D. Pa. 1863).

279. *United States v. Gellman*, 44 F. Supp. 360, 362–64 (D. Minn. 1946).

diminishes the value of the dollar as a whole becomes more palpable.<sup>280</sup>

Of course, the age of the statute,<sup>281</sup> as well as the statute's limited enforcement,<sup>282</sup> works against an argument based fully on the purpose of the act. On the other hand, the act has been amended as recently as 1994.<sup>283</sup> This amendment could be read to suggest that Congress recognizes a need to use the Stamp Payments Act in a modern context (including e-currency).<sup>284</sup> The lack of such intent seems just as likely.<sup>285</sup>

The act punishes those who issue, circulate, or pay out prohibited tokens.<sup>286</sup> For enforcement persons, it is unclear who "issues" Bitcoin. The most likely candidate is Satoshi Nakamoto. It would be a difficult argument to claim that those who solve block chains are issuing Bitcoin.<sup>287</sup> However, those who solve block chains are aiding in the circulation of the coins. This would implicate anyone who has downloaded the Bitcoin program. Furthermore, Bitcoin exchanges could be found in violation of the Stamp Payments Act for "paying out" cash for Bitcoins.

If the government were to choose to regulate Bitcoin through the Stamp Payments Act, it would have to consider the peer-to-peer nature of the currency. Bringing a case against one actor in the Bitcoin system, even a significant one like Mt. Gox, will not bring an ultimate end to Bitcoin trading. However, if the government's concern is competition with "greenbacks,"<sup>288</sup> removing large trading houses and making the entire system less liquid will discourage all but the most ardent of Bitcoin advocates.

### 3. *Securities and Exchange Acts*

Another way for regulators to attempt to reign in Bitcoin is through the use of the Securities and Exchange Acts. First, comparing the purpose of the Securities and Exchange Acts and the unique historical circumstance behind them, to the current environment that Bitcoins reside within will provide a proper context for this analysis. Second, Bitcoins must be examined through the lens of the definitions of the traditional securities, as provided in Part II. Third, it should be discussed whether trading in Bitcoin creates an investment contract. Finally, one must consider the policy implications of expanding the securities laws to include e-currencies.

The securities laws were born from the "Wild West" of the state-

280. Bitcoin total value is at least \$30 million. Lee, *supra* note 41. NORFED claimed that Liberty Dollars were only worth \$20 million. Press Release, U.S. Mint, *supra* note 72.

281. *Echoes of the Past*, *supra* note 49, at 467.

282. The cases described in Part II.B.3. are some of the only charges in existence.

283. *Echoes of the Past*, *supra* note 49, at 467.

284. Kerry Lynn Macintosh, *The New Money*, 14 BERKELEY TECH. L.J. 659, 672 n.78 (1999).

285. Grinberg, *supra* note 9, at 190.

286. 18 U.S.C. § 336 (2006).

287. "To issue" means "the first delivery of a negotiable instrument by its maker or holder." BLACK'S LAW DICTIONARY 908 (9th ed. 2009). Those who solve block chains are not delivering the coins, merely verifying that the delivery is valid.

288. Hughes, *supra* note 277. Compared to the \$30 million USD of Bitcoin in existence, the U.S. economy has the size of \$13 trillion. Lee, *supra* note 41.

regulated securities market.<sup>289</sup> At the time, securities were misunderstood by most investors, who fell prey to fraudsters manipulating the market, as well as companies who operated with unique accounting schemes and often would not disclose negative facts.<sup>290</sup> This environment is quite similar to the current Bitcoin market—it is misunderstood by most, which leads to mass speculation and crime. There is alignment in the purpose of the Securities Acts and the reality of the current Bitcoin market.

However, Bitcoins do not fall within the category of “notes”—there is no promise to pay for Bitcoin, though some are willing to trade for them.<sup>291</sup> Nor can Bitcoins be considered a commodity, which refers to *tangible* goods<sup>292</sup> rather than intangible objects. There are more similarities between Bitcoins and stocks—for the more CPU an individual invests in solving block chains, she receives a proportional amount of Bitcoins. However, Bitcoin, of course, lacks the organization of a corporation, and there are no “voting rights” associated with owning more Bitcoins.<sup>293</sup>

The Securities Acts also cover investment contracts. However, Bitcoins themselves seem to fail under this definition as well. First, an investment presumes a return in the future. Individuals trading Bitcoins for U.S. dollars are not necessarily looking to eventually cash out their coins for traditional currency, perhaps they merely want to enjoy Bitcoins. Secondly, even if they were, attempting to ride a currency market to the top should hardly be considered a “common enterprise.”

But where the securities laws may fail to regulate Bitcoins themselves, they can be used to regulate Bitcoin exchanges.<sup>294</sup> One must consider the flexible nature of the definitions within the Securities Acts in order to cover instruments that had not yet been invented.<sup>295</sup> Furthermore, it is a much more compelling argument to say that those who trade on the exchanges are looking for a future return based on the actions of others.<sup>296</sup>

Bitcoin exchanges bring together willing buyers and sellers.<sup>297</sup> More importantly, they have a virtual trading floor, which was a crucial distinction in a case like *Board of Trade*.<sup>298</sup> Unlike the computer program Delta, the Bitcoin exchanges behave in ways “generally understood” to be a currency exchange.<sup>299</sup>

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289. DONNA M. NAGY ET AL., *SECURITIES LITIGATION AND ENFORCEMENT* 2 (3d ed. 2012).

290. *Id.*

291. BLACK’S LAW DICTIONARY 1162 (9th ed. 2009).

292. *Id.* at 310.

293. John Williams Nelson, *Why Bitcoin Isn’t a Security Under Federal Securities Law*, LEX TECHNOLOGIAE (June 26, 2011, 11:49 PM), <http://www.lextechnologiae.com/2011/06/26/why-bitcoin-isnt-a-security-under-federal-securities-law/> (“Bitcoin does not possess the general characteristics of a security.”).

294. *Id.*

295. SEC v. Am. Commodity Exch., Inc., 546 F.2d 1361, 1366 (10th Cir. 1976) (Securities are to be construed “in light of economic realities.”).

296. Robb, *supra* note 244.

297. *Buying Bitcoins*, BITCOIN WIKI, [https://en.bitcoin.it/wiki/Buying\\_bitcoins](https://en.bitcoin.it/wiki/Buying_bitcoins) (last visited Feb. 26, 2013).

298. Bd. of Trade of City of Chi. v. SEC, 923 F.2d 1270, 1272 (7th Cir. 1991).

299. *Id.* For an overview of the behavior of the largest exchange, see *Mt. Gox*, BITCOIN WIKI, <https://en.bitcoin.it/wiki/MtGox> (last visited Feb. 26, 2013).

Bitcoin exchanges run as nonprofit entities that are registered to individuals outside the United States.<sup>300</sup> It is true that nonprofit exchanges are exempt from registration requirements,<sup>301</sup> though not anti-fraud requirements.<sup>302</sup> However, the registration “will not be assumed; it must be affirmatively pleaded and proved by the defendant.”<sup>303</sup> Also, foreign currency exchanges have been required to follow the securities laws, as well.<sup>304</sup> Thus, although these elements make the argument in favor of registering the Bitcoin exchanges more challenging, they are not insurmountable.

Were the exchanges to fall under the purview of the securities laws, they would be forced to make a number of changes. First of all, an exchange would have to register with the SEC.<sup>305</sup> It would also have to file a number of public reports<sup>306</sup> which could have a double benefit—informing potential investors on the full reality of Bitcoin investment, while providing the government with useful information that it previously had lacked. Most importantly, the exchanges would be liable for instances of fraud.<sup>307</sup> This would force them to invest in self-policing mechanisms.

No doubt this will increase the transaction cost for the exchanges. However, spreading this cost across all investors is preferable to investors bearing the entire risk of fraud themselves. This solution also allows the exchanges to continue operation, albeit at greater cost.<sup>308</sup>

#### 4. *Financial Requirements*

Finally, a prosecutor could attack Bitcoin exchanges through the use of the money laundering laws. Examining these laws, particularly with regard to e-Gold and PayPal as comparable test cases, can shed light on the feasibility and effectiveness of using these statutes to regulate Bitcoin.

Because Bitcoin exchanges trade from U.S. dollars (and other currencies) to Bitcoin and back, they are currency exchanges. Thus, they are subject to the requirements of the Bank Secrecy Act.<sup>309</sup> FinCEN has released a recent press release specifically stating an interest in regulating all money service

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300. Jason Mick, *Cracking the Bitcoin: Digging into a \$131M USD Virtual Currency*, DAILY TECH (June 12, 2011, 7:35 PM), <http://www.dailytech.com/Cracking+the+Bitcoin+Digging+Into+a+131M+USD+Virtual+Currency/article21878.htm>.

301. 15 U.S.C. §§ 77c(a)(4), 78(g)(2)(D) (2006).

302. *Forman v. Cmty. Servs., Inc.*, 366 F. Supp. 1117, 1132 n.44 (S.D.N.Y.1973) (noting that antifraud provisions of both Securities Act and Exchange Act are applicable to securities exempt from registration), *rev'd on other grounds*, 500 F.2d 1246 (2d Cir. 1974), *rev'd sub nom.* *United Housing Found., Inc. v. Forman*, 421 U.S. 837 (1975).

303. *SEC v. Bennett*, 889 F. Supp. 804, 807 n.2 (E.D. Pa. 1995).

304. *United States v. Roberts*, No. 4:08CR00181, 2008 WL 5111165, at \*1 (E.D. Ark. Dec. 2, 2008).

305. 15 U.S.C. §§ 77(e)(a), (e)(c).

306. 17 C.F.R. § 229.601 (2011).

307. *See Caravan Mobile Home Sales v. Lehman Bros. Kuhn Loeb*, 769 F.2d 561, 564 (9th Cir. 1985) (providing elements of scienter for liability).

308. Some may argue that the exchanges can ill-afford greater costs due to their nonprofit nature. This author recognizes that risk. However, if Bitcoin is properly regulated, it is likely that it would be viewed as more stable and is thus more likely to attract more investors. The increased cost is easier to justify as demand rises.

309. 31 U.S.C. § 5312(a)(2)(J) (2006).

businesses, including Bitcoin, whether they are U.S. companies or not.<sup>310</sup> Specifically, Bitcoin exchanges are required to report exchanges greater than \$10,000,<sup>311</sup> register with FinCEN, and begin self-policing for instances of fraud.<sup>312</sup>

The exchanges are also vulnerable to sanction stemming from the Money Laundering Act. Individuals are able to gain Bitcoins in a number of illegal ways.<sup>313</sup> It is fair to assume that these same individuals would use the exchanges for conversions into other currencies because it would be inefficient to try and make trades involving such a large amount of Bitcoins on an individual basis.<sup>314</sup> Furthermore, criminals leave a trail of telltales as they engage in suspicious behavior on the exchanges.<sup>315</sup> Mt. Gox and others must be aware of the problem of criminals using the exchanges. Although it may be unfair to accuse them of knowing about particular acts of criminality and knowingly aiding in money laundering, the “willful blindness” aspect of scienter can still apply. For example, Bitcoin exchanges allow individuals to make trades in anonymity, do not police trades on their exchange, and do not provide proper documentation for taxation on investment gains.<sup>316</sup> Furthermore, it is rare when the exchanges reverse trades.<sup>317</sup> These elements can be used against the Bitcoin exchanges as evidence that they have the necessary scienter.

There are similarities between e-Gold and Bitcoin. Both involve an electronic currency that touts anonymity as a benefit.<sup>318</sup> Both are used by criminals and fraudsters as a mechanism for gaining or cleaning illegal cash.<sup>319</sup> Both have exchanges, which process massive amounts of transactions and charge per transaction.<sup>320</sup> Surely, the two systems are similar enough that Bitcoin exchanges face the same risks as e-Gold of being shuttered and the owners of the exchanges being prosecuted for criminal penalties.

But, as with e-Gold, if regulators were to use the Money Laundering Act to close Mt. Gox and others, they would be missing an opportunity to use the exchanges as a pipeline to information on criminal behavior. e-Gold began to require registration, and instituted internal mechanisms to provide the FBI with information on suspicious behavior.<sup>321</sup>

PayPal took the steps necessary to appease law enforcement by appointing a compliance officer, installing fraud detection software, and

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310. Press Release, U.S. Dept. of the Treasury Fin. Crimes Enforcement Network, FinCEN Releases the New Registration of Money Services Businesses (RMSB) (Mar. 14, 2012), available at [http://www.fincen.gov/news\\_room/nr/pdf/20120314.pdf](http://www.fincen.gov/news_room/nr/pdf/20120314.pdf).

311. 31 U.S.C. § 5313(a) (2006); 31 C.F.R. § 103.22 (2011).

312. *Forms*, *supra* note 133.

313. As noted in Part III.A.1—for example, theft, computer fraud, and selling illegal items.

314. In describing how to purchase illegal drugs on Silk Road, the author directs the reader to use Mt. Gox to buy Bitcoins. Broderick, *supra* note 5.

315. Zetter, *supra* note 138.

316. *Mt. Gox*, *supra* note 300.

317. Mick, *Mega-Hack*, *supra* note 214.

318. Wallace, *supra* note 15; Zetter, *supra* note 138.

319. Chen, *supra* note 1; Herpel, *supra* note 141.

320. Indictment, United States v. e-Gold LTD., No. 07-109, (D.D.C. 2006); *Mt. Gox*, *supra* note 300.

321. Zetter, *supra* note 138.

making reports to law enforcement.<sup>322</sup> Although this affected the transaction costs, PayPal has been a successful business model without sacrificing compliance to U.S. law.

Bitcoin exchanges, too, have shown an interest in cooperating with law enforcement.<sup>323</sup> In Europe, French authorities have licensed the first Bitcoin exchange that will operate like a bank, complete with debit cards, accounts, and an easier mechanism for converting cash into Bitcoin.<sup>324</sup> Regulators should not miss the opportunity to get valuable information from a few large information aggregators, rather than trying the impossible task of monitoring the vast network of peer-to-peer Bitcoin trades.

Closing the exchanges would surely dry up the liquidity of the Bitcoin system. Most investors would pull out of Bitcoin, creating a run on the currency in general. However, what would remain, after the dust settled, is a cadre of dedicated users,<sup>325</sup> mostly those dedicated to criminal activity, ideology, or technical novelty. Illegal acts such as purchases on Silk Road or Black Market [Reloaded] would not end, they would simply occur within a Bitcoin black market that cannot be monitored.

##### 5. *Addressing Potential Defenses*

The potential defenses raised in the case of the Liberty Dollar should not be a concern for the Bitcoin litigator.

The UCC defense, flimsy in its own right,<sup>326</sup> is completely inapplicable in the case of Bitcoin. Bitcoin lacks both the specie and paper warehouse receipt that Mr. Sulla referred to. At best, proponents of this argument would be forced to argue that ownership of Bitcoin is an electronic receipt of the computer power devoted to mining the coin. This argument is unavailing, as the UCC requires certain information be documented to be considered a warehouse receipt.<sup>327</sup>

The First Amendment defense, though stronger, will not protect Bitcoin or the exchanges. Unlike the NCBA, which was organized behind the belief that the Federal Reserve and IRS are illegitimate, Bitcoin is not united behind a common ideology.<sup>328</sup> However, to ensure that any First Amendment violations do not occur, regulators should be prepared to articulate and prove an

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322. Kaminski, *supra* note 153, at 390.

323. To their credit, the exchanges have stated that they are willing to monitor transactions and seek “legalized, regulated status.” Wolf, *supra* note 228. Mt. Gox solicits information from traders who seek transactions greater than \$10,000 U.S. dollars. *Transaction Limits*, MT.GOX (Sept. 29, 2011, 6:19 PM), <https://support.mtgox.com/entries/20490576-withdrawals-and-deposits>.

324. Alexis Santos, *Bitcoin-Central Becomes the First Bitcoin Exchange to Operate Like a Bank*, ENGADGET (Dec. 9, 2012, 3:09 AM), <http://www.engadget.com/2012/12/09/bitcoin-exchange-bitcoin-central-licensed-bank/>.

325. Bitcoin has already survived one major run. Lee, *supra* note 41.

326. The argument was unavailing in the trial for von NotHaus. Press Release, FBI, *supra* note 83.

327. U.C.C. § 7-202(2) (2007).

328. Although it is true that some Bitcoin investors use the currency because they share the belief that U.S. legal tender is unconstitutional, Bitcoin as an organization—if it can even be called that—invites all. *What Is a Good Way to Concisely Explain Bitcoin?*, *supra* note 177.

“overriding state interest”<sup>329</sup> in issuing subpoenas to investigate any money laundering, tax evasion, or other criminal violations.

#### IV. RECOMMENDATIONS

Although not illegal, it is clear that Bitcoins increase subversive actors’ capacity to commit criminal offenses and are problematic as a currency. However, they should not be strictly outlawed. Instead, Bitcoins should see heavier regulation and fall within the purview of the SEC.

It is true that Bitcoins offer little legitimate advantage to traditional currency, existing legitimate business (such as PayPal), or investment activities. The fact that they are novel, relatively anonymous, used for the purchase of illegitimate goods, and easy to use as a vehicle for eluding reporting and tax requirements does not justify their existence and points to a need to restrict their use.

Outlawing Bitcoin would not address the problem. In the short run, exchanges such as Mt. Gox would probably close and many users would abandon the currency. However, Bitcoin would retain a core of tech-savvy or anarchist users that are all the more intrigued by the currency’s newfound illegality. It is quite likely that they would trade Bitcoins secretly and continue to use them as a mechanism for sponsoring hackers and purchasing drugs. However, the trades would no longer happen in a large exchange but rather one at a time between users. These savvy users would be more prone to constantly changing public addresses on their Bitcoins and laundering the coins to randomize their trading network. This would hamper an investigating agency’s ability to aggregate network patterns and evaluate trends. They also would be more cautious about maintaining backups to their coins, so that if their computer is seized and the Bitcoins on their hard drive are destroyed, they would have backup copies. Furthermore, websites that publish information on addresses with large amounts of Bitcoins would surely shut down, severing another way to gather valuable information on suspicious actors.

A better solution is for Congress to explicitly create a comprehensive set of statutes that address the regulation of private electronic currencies, like Bitcoin. The first element should require Bitcoin to maintain a database of registered wallets. This database would be subject to subpoena but could not be accessed by the government otherwise. This failsafe helps to ensure that the registry of wallets is not in violation of the First Amendment.

Depending on Congress is all well and good, but the rash of thefts, cons, and hacks already occurring in the Bitcoin world suggest that prosecutors and investigators should not wait. The primary concern needs to be avoiding options that lead to the closure of the exchanges. To this end, a prosecutor’s argument that Bitcoin is per se counterfeiting, or in violation of the Stamp Payments Act, is not only a weak legal argument, it is against sound policy.

This is not to say the exchanges should be left alone. Using the weight of

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329. Nat’l Commodity & Barter Ass’n v. United States, 951 F.2d 1172, 1175 (10th Cir. 1991).

the Money Laundering Acts, the government can leverage the exchanges into keeping a record of their transactions, policing suspicious trades, and making the necessary reports to regulatory agencies. In so doing, it must consider the success story of PayPal over the relative failure of e-Gold.

In the long run, the Bitcoin exchanges should fall within the purview of the SEC. They should be forced to report large transactions and be subject to the rigorous accounting standards of the Financial Accounting Standards Board. They should be subject to the securities laws, which help to eliminate opportunities for fraud. Like other financial institutions, the exchanges should face rigorous audits by the IRS and be compelled to supply their traders with information to file Form 1099(b).

Where these attempts fail, prosecutors can also rely on the federal wire fraud statute, which has a broad purview and could be used to prosecute just about any scheme, scam, or fraud committed within Bitcoin.<sup>330</sup>

Finally, the DOJ, SEC, FBI, and Drug Enforcement Agency should each maintain a small division that specializes in investigating the illegitimate use of electronic currencies.<sup>331</sup> These agencies should expect crime and violations revolving around e-currency to grow in the coming years.

Investigative techniques such as mapping user networks and tracking suspicious trading behavior will help identify targeted criminal accounts. These units would also use the existing information on exchanges and websites to gather intelligence on suspicious users such as their web aliases, their account histories, their web presence, and potentially, their real names and addresses. Combined with a successful attempt to have registered users on the exchanges, in the case of a large theft, such as the Mt. Gox “mega-hack,” investigators could create a network of the Bitcoins involved. Known users can be investigated and eliminated, and then used to cull down to a smaller list of criminal suspects. Importantly, all of these investigative techniques involve public information, which ameliorates the concern for garnering warrants, Title III permissions, or subpoenas.

## V. CONCLUSION

Despite much travail, the bizarre world of Bitcoin has prevailed through currency exchange mega-hacks, burst bubbles, and an army of Trojans. Litigators, investigators, and regulators need to begin preparing themselves for how best to manage a corner of the Internet that has eluded regulation and has great potential for crime, particularly when there is no one law that neatly covers Bitcoin within its purview. Due to the peer-to-peer nature of the currency and the technical aptitude of many of its adherents, searching for an option that dismantles Bitcoin in one fell swoop is futile. Instead, regulators must seek a balance between oversight and cooperation from the major

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330. 18 U.S.C. § 1343 (2006).

331. This unit may find its best home within the DOJ’s Computer Crime and Intellectual Property Section. The SEC’s Enforcement Division could also house such a unit. The DEA might find best use for such a unit within their intelligence division. For the FBI, this unit could reside within the Cyber Division.

institutions, namely the exchanges.

Through the use of the Money Laundering Act and the Exchange Act, the government can achieve that balance. What will be left is a currency that is stronger and safer for use by the everyday consumer, but also easier to navigate in order to rout out those who would use it to commit illegal acts.

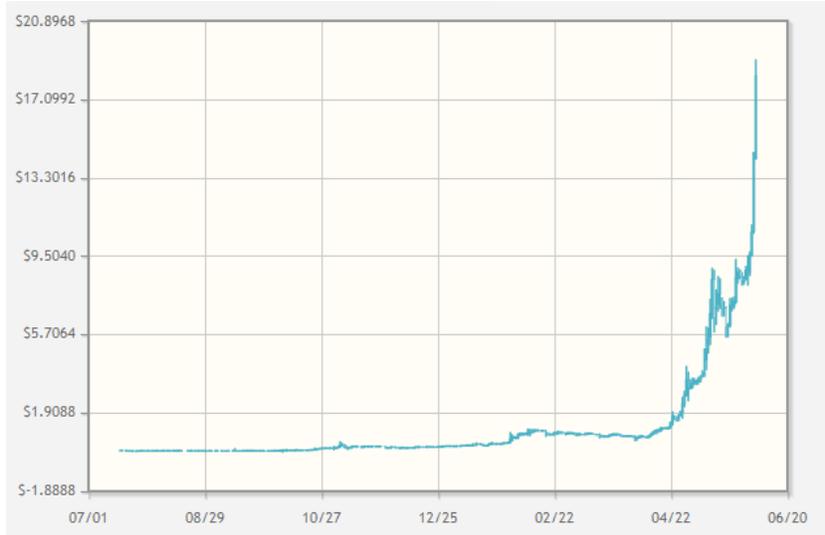
Appendix A.1  
U.S. Dollars Compared to Liberty Dollars



Appendix A.2  
The Icon that Represents Bitcoin



Appendix 2  
*The Bitcoin Bubble*



*The Bitcoin Crash*

