

Bursting the Bitcoin Bubble: The Case To Regulate Digital Currency as a Security or Commodity

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I. INTRODUCTION

The bitcoin is a popular digital asset that attracted the attention of media, speculative investors, and regulators. It emerged as an alternative to traditional currency because it offers lower transaction costs, the ability for users to remain anonymous, and financial independence from government instability and regulation. However, the bitcoin is also plagued by high volatility, frequent large-scale theft, and links to international crime.

Although several regulatory agencies issued warnings to investors about the serious risks associated with digital currencies, bitcoins are largely unregulated. Many regulators agree that bitcoin laws are necessary to protect investors from serious risk. However, federal authorities are split on whether to regulate bitcoins as a currency or an asset.

Bitcoin should not be regulated as a currency. Despite its minimal use as a payment method, a bitcoin does not meet the definition of currency. Thus, it does not function as a reliable medium of exchange, unit of account, or store of value. Instead, bitcoins should be regulated as a security and a commodity because the bitcoin itself meets the definition of an investment contract or a broad security, and bitcoins traded for future delivery meet the definition of a commodity. Thus, Bitcoin should be subject to the jurisdiction of the Securities and Exchange Commission (SEC) and the Commodity Future Trading Commission (CFTC).

II. OVERVIEW

A. *What Is a Bitcoin?*

In 2009, pseudonymous software developer Satoshi Nakamoto created Bitcoin.¹ It is a decentralized payment system managed by a peer-to-peer network that uses cryptography to control its production and verification.²

1. See Sam Ro, *Report: Bitcoin Inventor Has Been Found*, BUS. INSIDER (Mar. 6, 2014, 7:05 AM), <http://www.businessinsider.com/newseek-reporter-finds-bitcoin-inventor-2014-3>. See generally Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN, <https://bitcoin.org/bitcoin.pdf> (last visited Feb. 25, 2013) (explaining the need for, basis, and technology of Bitcoin).

2. See *Frequently Asked Questions*, BITCOIN, <https://bitcoin.org/en/faq> (last visited Feb. 24, 2014).

Bitcoins are created through a process called mining.³ The owner of a bitcoin transfers it to the next owner by signing it over in a transaction.⁴ A bundle of transactions, called a block, are confirmed to a public ledger, called a “block chain.”⁵ Miners use computing power to verify the block chain transactions and are rewarded with newly created bitcoins.⁶

The bitcoin supply is limited to control inflation.⁷ The total supply is capped at 21 million.⁸ Currently, there are approximately 6 million bitcoins in circulation.⁹ To decrease the supply, the current creation rate of twenty-five bitcoins every ten minutes will be halved every few years.¹⁰

Bitcoins can be exchanged for currency, goods, or services.¹¹ A self-described digital currency, the bitcoin is attempting to mirror traditional currencies by expanding its payment applications to debit cards and increased merchant networks.¹² However, a bitcoin is not legal tender and merchants are not required to accept it.¹³

B. Advantages of the Bitcoin

1. Lower Transaction Costs

Digital currencies have lower transaction costs than traditional currencies due to the fact that they lack physical presence.¹⁴ Bitcoin payments are currently processed with extremely small fees, in stark contrast to the high fees charged by credit card companies.¹⁵ This allows merchants around the world to accept bitcoins as payment.

3. *See id.*

4. *See id.*

5. *See id.*

6. *See id.*

7. *See id.*

8. *See id.*

9. *See* 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>.

10. *See How Bitcoin Works*, FORBES (Aug. 1, 2013, 12:25 PM), <http://www.forbes.com/sites/investopedia/2013/08/01/how-bitcoin-works/>.

11. *See Frequently Asked Questions*, *supra* note 2.

12. *See* Robert McMillan, *The World's First Bitcoin Debit Card Is Almost Here*, WIRED (Apr. 24, 2014, 11:00 AM), <http://www.wired.com/2014/04/xapo/>; Ian Kar, *What Companies Accept Bitcoin?*, NASDAQ (Feb. 4, 2014, 10:05 AM), <http://www.nasdaq.com/article/what-companies-accept-bitcoin-cm323438>.

13. *See How Bitcoin Works*, *supra* note 10.

14. *See* Nicolas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin Within the Reach of the IMF*, 14 CHI. J. INT'L L. 377, 387 (2013).

15. *See Frequently Asked Questions*, *supra* note 2.

2. Privacy

Bitcoin users have the ability to stay relatively anonymous.¹⁶ The transactions do not explicitly identify the payer and payee by name.¹⁷ Instead, a transaction transfers ownership from one Bitcoin address to another.¹⁸ A user can have as many Bitcoin addresses as he or she wants.¹⁹ By using a different address for each transaction, users can make it impossible to associate all transactions together.²⁰

3. Financial Independence

Bitcoins are not backed by a government or central bank.²¹ As such, they are unaffected by government instability and regulation.²² As a result, the bitcoin is gaining popularity in countries that experience economic instability and is used, for example, as an alternative to the Argentinean peso, which experiences hyperinflation and capital controls.²³ The bitcoin is also used in Iran to evade currency sanctions.²⁴

The unregulated nature of bitcoins also provides advantages to traditional currency. In contrast to fiat transactions, transferring a large number of bitcoins will not alert authorities.²⁵ Similarly, authorities cannot freeze the assets in a bitcoin account.²⁶

16. *Id.*

17. *See How Does Bitcoin Work?*, BITCOIN, <https://bitcoin.org/en/how-it-works> (last visited Feb. 24, 2014).

18. *See id.*

19. *See Protect Your Privacy*, BITCOIN, <https://bitcoin.org/en/protect-your-privacy> (last visited Sept. 21, 2014).

20. *See id.*

21. *See How Bitcoin Works*, *supra* note 10.

22. *See* Plassaras, *supra* note 14, at 389-90.

23. *See* Jon Matonis, *Bitcoin's Promise in Argentina*, FORBES (Apr. 27, 2013, 12:57 PM), <http://www.forbes.com/sites/jonmatonis/2013/04/27/bitcoins-promise-in-argentina/>.

24. *See* 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>.

25. *See* Lawrence J. Trautman, *Virtual Currencies: Bitcoin & What Now After Liberty Reserve, Silk Road, and Mt. Gox?*, 20 RICH. J.L. & TECH. (forthcoming 2014) (manuscript at 8-9), available at <http://papers.ssrn.com/abstract=2393537> (select the "Download This Paper" hyperlink).

26. *See id.*

C. Disadvantages of the Bitcoin

1. Volatility

The high volatility of the bitcoin is a serious concern. The number of bitcoins in circulation and the number of merchants who accept bitcoin as payment are small.²⁷ This limited liquidity means a small event or trade can affect the value of bitcoins.²⁸ In a short period, the value of bitcoins dropped 50%, from \$1,155 to \$576.²⁹ In 2013, bitcoin volatility was 142%, compared to traditional currency volatility of 10%, and typical stock volatility of 25%.³⁰ Unlike gold, a bitcoin's value is not tied to a resource and its value cannot be recovered.³¹ The high volatility associated with bitcoins raises serious concerns about their viability as a currency.³²

2. Theft

The frequent theft of bitcoins is another major concern. Individual bitcoin theft occurs when someone completes an unauthorized transfer out of the authorized user's wallet by stealing the user's private access key.³³ Large-scale bitcoin theft occurs at exchanges that store the private keys of many users.³⁴ There have been many high-profile thefts from bitcoin marketplaces. In October 2013, an Australian bitcoin bank was hacked, resulting in a loss of the equivalent of US\$1 million.³⁵ In November 2013, 96,000 bitcoins were stolen from the online drug

27. See *Frequently Asked Questions*, *supra* note 2.

28. See *id.*

29. See Tyler Durden, *Bitcoin Crashes, Loses Half of Its Value in Two Days*, ZERO HEDGE (Dec. 7, 2013, 10:27 AM), <http://www.zerohedge.com/news/2013-12-07/bitcoin-crashes-loses-half-its-value-two-days>.

30. See David Yermack, *Is Bitcoin a Real Currency? An Economic Appraisal* 14-15 (Nat'l Bureau of Econ. Research, Working Paper No. 19747, 2013), available at <http://papers.ssrn.com/abstract-2361599> (select the "Download This Paper" hyperlink).

31. See *Frequently Asked Questions*, *supra* note 2.

32. See *id.*

33. See *id.*

34. See Nicole Perlroth, *To Instill Love of Bitcoin, Backers Work To Make It Safe*, N.Y. TIMES (Apr. 1, 2014, 4:39 PM), <http://dealbook.nytimes.com/2014/04/01/to-instill-love-of-bitcoin-backers-work-to-make-it-safe/>.

35. See Jim Edwards, *18-Year-Old Reports \$1 Million Bitcoin Theft from 'Bank' He Controlled—And Says He Can't Call the Cops*, BUS. INSIDER (Nov. 8, 2013, 9:24 AM), <http://www.businessinsider.com/1-million-bitcoin-theft-in-australia-2013-11>.

website Sheep Marketplace.³⁶ In February 2014, bitcoins valued at US\$2.7 million were stolen from the online marketplace Silk Road 2.³⁷ Also in February 2014, the largest bitcoin exchange, Mt. Gox, declared bankruptcy after disclosing that 850,000 bitcoins belonging to customers were missing.³⁸ To date, the equivalent of \$500 million worth of bitcoins have been stolen or lost.³⁹ The large amount of bitcoin theft indicates security concerns, such as hackers, brute force attacks, Goldfinger attacks, and Trojan horses.⁴⁰

Recovery of stolen value is an area where virtual currency still lags behind fiat currency. If a U.S. bank fails, the Federal Deposit Insurance Corporation (FDIC) insures depositors up to \$250,000.⁴¹ Similarly, if a brokerage firm fails in the United States, the Securities Investor Protection Corporation (SIPC) insures investors up to \$500,000.⁴² Bitcoin transactions are not insured against loss.⁴³ Further, the anonymity of users and the finality of transactions make bitcoin recovery near impossible.⁴⁴

3. International Crime

Bitcoins are also linked to international crime. The Federal Bureau of Investigation (FBI) expressed concern that bitcoins are increasingly used on the “dark web”—the network of illicit websites used for child pornography, sex trafficking, money laundering, and drug sales.⁴⁵ In

36. See Jim Edwards, *Two Guys on Reddit Are Chasing a Thief Who Has \$220 Million in Bitcoins*, BUS. INSIDER (Dec. 4, 2013, 3:22 PM), <http://www.businessinsider.com/220-million-sheep-marketplace-bitcoin-theft-chase-2013-12>.

37. See John Biggs, *Silk Road 2 Hacked, over 4,000 Bitcoins Allegedly Stolen*, TECHCRUNCH (Feb. 13, 2014), <http://techcrunch.com/2014/02/13/silk-road-2-hacked-88000-bitcoin-allegedly-stolen/>.

38. See Nathaniel Popper & Rachel Abrams, *Apparent Theft at Mt. Gox Shakes Bitcoin World*, N.Y. TIMES (Feb. 25, 2014), http://www.nytimes.com/2014/02/25/business/apparent-theft-at-mt-gox-shakes-bitcoin-world.html?_r=0.

39. See Dylan Love, *\$500 Million Worth of Bitcoin Has Been Stolen Since 2010*, BUS. INSIDER (Mar. 11, 2014, 1:31 PM), <http://www.businessinsider.com/how-many-bitcoins-have-been-stolen-2014-3>.

40. See Trautman, *supra* note 25, at 43.

41. See *Deposit Insurance*, FDIC, <http://www.fdic.gov/deposit/> (last visited Feb. 27, 2014).

42. See *SIPC Mission*, SIPC, <http://www.sipc.org/about-sipc/sipc-mission> (last visited Feb. 27, 2014).

43. See *Frequently Asked Questions*, *supra* note 2.

44. See Plassaras, *supra* note 14, at 12.

45. See Kim Zetter, *FBI Fears Bitcoin's Popularity with Criminals*, WIRED (May 9, 2012, 10:51 PM), <http://www.wired.com/2012/05/fbi-fears-bitcoin/>; Catherine Martin

May 2013, the United States government shut down Liberty Reserve, a digital payment processor, for money laundering and participation in illegal activities.⁴⁶ Likewise, in October 2013, the FBI shut down Silk Road, an online marketplace for illegal activities, and seized 26,000 bitcoins belonging to users.⁴⁷ Furthermore, in early 2014, the operator of BitInstant, a bitcoin exchange, was arrested for money laundering in connection with illegal activities.⁴⁸

III. THE CASE TO REGULATE BITCOIN

A. *Current Bitcoin Regulations*

1. Regulation Abroad

Many countries have no official stance on the regulation of digital currencies.⁴⁹ The European Banking Authority stated that because the bitcoin is not regulated, consumers are not protected and are at risk of losing their money.⁵⁰ Canada has no official stance on digital currency but taxes bitcoin transactions that are similar to speculative transactions.⁵¹

Several countries have banned the use of digital currencies. China declared that bitcoins are not a currency and should not be circulated in the market as a currency.⁵² It also banned financial institutions from accepting or exchanging virtual currencies.⁵³ Russia banned the bitcoin due to its increasing use in criminal activities.⁵⁴

Christopher, *Whack-a-Mole: Why Prosecuting Digital Currency Exchanges Won't Stop Online Money Laundering*, 18 LEWIS & CLARK L. REV. 1 (2014).

46. See *Co-Founder of Liberty Reserve Pleads Guilty To Money Laundering in Manhattan Federal Court*, OFF. PUB. AFF., U.S. DEP'T JUST. (Oct. 31, 2013), <http://www.justice.gov/opa/pr/2013/October/13-crm-1163.html>.

47. See *Federal Indictment Against Silk Road Founder Ross Ulbricht for Narcotics Trafficking, Computer Hacking, and Money Laundering*, JD SUPRA BUS. ADVISOR (Sept. 27, 2013), <http://www.jdsupra.com/legalnews/federal-indictment-against-silk-road-fou-15536/> [hereinafter *Federal Indictment Against Silk Road Founder Ross Ulbricht*].

48. See Rob Wile, *CEO of Bitcoin Exchange Arrested*, BUS. INSIDER (Jan. 27, 2014, 11:13 AM), <http://www.businessinsider.com/report-ceo-of-major-bitcoin-exchange-arrested-2014-1>.

49. See Kashmir Hill, *Bitcoin's Legality Around the World*, FORBES (Jan. 31, 2014, 6:02 PM), <http://www.forbes.com/sites/kashmirhill/2014/01/31/bitcoins-legality-around-the-world/>.

50. See *EBA Warns Consumers on Virtual Currencies*, EUR. BANKING AUTH. (Dec. 13, 2013), <https://www.eba.europa.eu/-/eba-warns-consumers-on-virtual-currencies>.

51. See Hill, *supra* note 49.

52. See *id.*

53. See *id.*

54. See *id.*

2. Regulation in the United States

In the United States, the bitcoin's legal status is unclear.⁵⁵ The bitcoin does not fall under the authority of the Federal Reserve System because it was not issued by a United States banking organization.⁵⁶ Other federal authorities are split on whether to regulate digital currencies as a currency or an asset. The FBI prosecuted several criminal cases involving the use of bitcoins as currency.⁵⁷ However, in March 2014, the Internal Revenue Service declared that bitcoins would be taxed as an asset rather than as a currency.⁵⁸ The Federal Election Committee ruled that bitcoins are a currency and an asset for federal election purposes.⁵⁹

B. *Reasons To Regulate Bitcoin*

1. The Bitcoin Bubble

Top economists are concerned that the bitcoin exhibits all the symptoms of a bubble. Former Federal Reserve Chairman Alan Greenspan stated, "There is no fundamental issue of capabilities of repaying it in anything which is universally acceptable, which is either intrinsic value of the currency or the credit or trust of the individual who is issuing the money, whether it's a government or an individual."⁶⁰ Thus, traditional currencies have intrinsic value because they are backed by the individual issuing the currency, whereas bitcoins have no independent value because they are not backed by an individual. According to the Efficient-Markets Hypothesis (EMH), which is still the dominant hypothesis in the analysis of financial markets, it is impossible for

55. See generally Stephen T. Middlebrook & Sarah Jane Hughes, *Regulating Cryptocurrencies in the United States: Current Issues and Future Directions*, 40 WM. MITCHELL L. REV. 813 (2014).

56. See Terrence O'Brien, *Federal Reserve Has No Authority To Regulate Bitcoin, According to Chairwoman*, ENGADGET (Feb. 27, 2014), <http://www.engadget.com/2014/02/27/federal-reserve-has-no-authority-to-regulate-bitcoin/>.

57. See *Federal Indictment Against Silk Road Founder Ross Ulbricht*, *supra* note 47.

58. See Robe Wile, *The IRS Just Made a Crucial Ruling About Bitcoin*, BUS. INSIDER (Mar. 25, 2014, 2:08 PM), <http://www.businessinsider.com/irs-bitcoin-is-property-not-currency-full-release-2014-3>.

59. See Nick Corasaniti, *Election Commission Votes To Allow Bitcoin Donations*, N.Y. TIMES (May 8, 2014), <http://www.nytimes.com/2014/05/09/us/politics/election-commission-votes-to-allow-bitcoin-donations.html>.

60. Jeff Kearns, *Greenspan Says Bitcoin a Bubble Without Intrinsic Currency Value*, BLOOMBERG (Dec. 4, 2013, 4:37 PM), <http://www.bloomberg.com/news/2013-12-04/greenspan-says-bitcoin-a-bubble-without-intrinsic-currency-value.html>.

bitcoins to sustain their value.⁶¹ The EMH states that the market value of an asset is equal to the best available estimate of the value of the income flows it will generate.⁶² As bitcoins do not generate any earnings and have no intrinsic value, they must appreciate in value to ensure that people are willing to hold them.⁶³ However, an endless appreciation, without any earnings flow, is precisely what the EMH defines as a bubble.⁶⁴

2. Risks to Investors

The bitcoin is a self-described digital currency.⁶⁵ However, most bitcoin users are acquiring it as a speculative investment, rather than with the intent to purchase goods.⁶⁶ This conclusion is evidenced by the fact that demand for bitcoins is growing with increased public attention, while the actual usage of bitcoins remains constant.⁶⁷ Some exchanges show 80% of bitcoin users purchase it as a speculative tool.⁶⁸

There are many risks to investing in bitcoins. The SEC, Financial Industry Regulatory Industry (FINRA), and the North American Securities Administrators Association (NASAA) all issued warnings to investors about the dangers of digital currencies.⁶⁹ The SEC warns that investments involving bitcoins may have a heightened risk of fraudulent or high-risk investment schemes.⁷⁰ FINRA warns that bitcoin prices have

61. See John Quiggin, *The Bitcoin Bubble and a Bad Hypothesis*, NAT'L INT. (Apr. 16, 2013), <http://nationalinterest.org/commentary/the-bitcoin-bubble-bad-hypothesis-8353>.

62. See *id.*

63. See *id.*

64. See *id.*

65. See *Frequently Asked Questions*, *supra* note 2.

66. See Florian Glaser et al., *Bitcoin—Asset or Currency? Revealing Users' Hidden Intentions*, SSRN 13 (Apr. 15, 2014), <http://papers.ssrn.com/abstract=2425247> (select the "Download This Paper" hyperlink).

67. See *id.* at 12.

68. See Lizette Chapman, *Coinbase To Push Bitcoin from Commodity to Currency, with \$25M from Investors*, WALL ST. J. (Dec. 12, 2013, 5:27 PM), <http://blogs.wsj.com/venturecapital/2013/12/12/with-25m-coinbase-to-push-bitcoin-from-commodity-to-currency/>.

69. See *Investor Alert: Bitcoin and Other Virtual Currency-Related Investments*, U.S. SEC. & EXCH. COMM'N (May 7, 2014), <http://investor.gov/news-alerts/investor-alerts/investor-alert-bitcoin-other-virtual-currency-related-investments#.U7QxyRbblub>; *Bitcoin: More Than a Bit Risky*, FIN. INDUS. REGULATORY AUTH., <http://www.finra.org/investors/protectyourself/investor-alerts/fraudsandscams/p456458> (last updated May 7, 2014); *NASAA Expands Annual Top Investor Threat List*, N. AM. SEC. ADMIN. ASS'N (Oct. 15, 2013), <http://www.nasaa.org/27012/nasaa-expands-annual-top-investor-threats-list/>.

70. See *Investor Alert: Bitcoin and Other Virtual Currency-Related Investments*, *supra* note 69.

fluctuated considerably and investors may be subject to large losses.⁷¹ The NASAA included digital currencies on their list of top investor threats.⁷²

Bitcoin investors face several other risks. As with any investment, there is also the possibility that insider information can affect the investment's value. For example, if someone possessed knowledge regarding the loss of bitcoins from an exchange, they would be able to trade on that information. The bitcoin's low liquidity means that trade may affect the value of bitcoins.⁷³ Finally, bitcoin investors may pose risks to themselves. There is evidence that bitcoin users are limited in their level of professionalism and objectivity, as indicated by their bias toward positive news.⁷⁴ This may make bitcoin users more susceptible to risk than traditional investors.

3. Opposition to Regulation

Opponents to bitcoin regulation have many concerns. The United States Senate Homeland Security and Governmental Affairs Committee recently expressed concern that regulation will stifle the growth of digital assets.⁷⁵ Opponents are also concerned that regulation will drive exchanges to countries with lower compliance standards and insufficient consumer protections.⁷⁶ They also fear regulation will increase bitcoin transaction costs and that the cost of regulation will outweigh the benefits because there are potentially millions of users to regulate.⁷⁷

The arguments against regulation are unpersuasive. There is no evidence that imposing minimal requirements to protect investors will deter Bitcoin growth. In fact, the opposite may be true. Regulation may increase investor confidence, which may increase growth of the bitcoin. It is true that bitcoin transaction costs may increase. However, an increase in transaction costs would be minimal compared to the costs of

71. See *Bitcoin: More than a Bit Risky*, *supra* note 69.

72. See *NASAA Expands Annual Top Investor Threat List*, *supra* note 69.

73. *Frequently Asked Questions*, *supra* note 2.

74. See Glaser et al., *supra* note 66, at 13.

75. See Timothy B. Lee, *Here's How Bitcoin Charmed Washington*, WASH. POST (Nov. 21, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/21/heres-how-bitcoin-charmed-washington/>.

76. See Joshua J. Doguet, *The Nature of the Form: Legal and Regulatory Issues Surrounding the Bitcoin Digital Currency System*, 73 LA. L. REV. 1119, 1149 (2013), available at <http://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?article=6425&context=lalrev>.

77. See Peter C. Tucker, *The Digital Currency Doppelganger: Regulatory Challenge or Harbinger of the New Economy?*, 17 CARDOZO J. INT'L & COMP. L. 589, 622-23 (2009).

losing bitcoins due to lack of consumer protection. Further, bitcoin transaction costs are already lower than any other online payment method.⁷⁸ Thus, it is possible that an increase in the bitcoin's low transaction costs would not rival the high fees charged by credit card companies.

Finally, the argument that the cost of regulation will outweigh the benefits is flawed. That argument assumes that regulating users is the only way to regulate bitcoins. Instead, bitcoin regulations should impose guidelines on miners and exchanges. This would allow regulation in the least restrictive way.

C. How To Regulate Bitcoin

1. Currency

Currency is described as a coin, government note, or bank note that circulates as a medium of exchange, unit of account, and store of value.⁷⁹ Bitcoins are a self-described currency.⁸⁰ However, there is doubt regarding the bitcoin's ability to function as a reliable medium of exchange, unit of account, or store of value.⁸¹ As such, bitcoins should not be regulated as currency.

The bitcoin is a poor medium of exchange for several reasons. First, the daily volume of bitcoin transactions is minimal compared to traditional currencies.⁸² Second, the process of acquiring and spending bitcoins makes it difficult to use as a source of payment. The mining process to acquire a bitcoin requires significant computing effort, and few merchants accept bitcoins as payment.⁸³ Third, the bitcoin's high volatility and the decreasing supply may encourage hoarding rather than

78. See Plassaras, *supra* note 14, at 9.

79. See Sonal Mittal, *Is Bitcoin Money? Bitcoin and Alternative Theories of Money*, SSRN (Apr. 23, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2434194 (select the "Download This Paper" hyperlink) (advancing several definitions and understandings of "currency").

80. See *Frequently Asked Questions*, *supra* note 2.

81. See generally Steve Forbes, *Bitcoin: Whatever It Is, It's Not Money!*, FORBES (Apr. 16, 2013, 10:50 AM), <http://www.forbes.com/sites/steveforbes/2013/04/16/bitcoin-whatever-it-is-not-money/>; Louis Woodhill, *Bitcoins Are Digital Collectables, Not Real Money*, FORBES (Apr. 11, 2013, 9:16 AM), <http://www.forbes.com/sites/louiswoodhill/2013/04/11/bitcoins-are-digital-collectibles-not-real-money/>; Tim Worstall, *Bitcoin Is More Like a Speculative Investment Than a Currency*, FORBES (Dec. 23, 2013, 1:16 PM), <http://www.forbes.com/sites/timworstall/2013/12/23/bitcoin-is-more-like-a-speculative-investment-than-a-currency/>.

82. See Mittal, *supra* note 79, at 10-11.

83. See *id.* at 12-13.

exchanging.⁸⁴ Fourth, the decentralized nature of Bitcoin means that it lacks connection to a banking system to insure transactions.⁸⁵ This ensures that bitcoins will not be used as a source of payment in credit transactions or contracts.⁸⁶ All of these factors may prevent bitcoins from becoming a stable medium of exchange.

The bitcoin is a poor unit of account because it cannot be used to compare the value of other goods. First, bitcoin exchanges have simultaneously listed different values for the digital currency.⁸⁷ This leads to unreliable price information and makes it difficult for users to compare the value of relevant goods. Second, the large size of one bitcoin is too large for practical use.⁸⁸ Bitcoin proponents argue that individual bitcoins may be divisible.⁸⁹ However, determining the value of goods and services priced in decimal increments of bitcoins may prove difficult for consumers, as such increments are not ordinary reference points for ordinary consumers.

The bitcoin is also a poor store of value. First, the high volatility makes it impossible for users to rely on the bitcoin as a means of maintaining value. In 2013, the volatility of bitcoins was substantially higher than both currency and stock volatility.⁹⁰ Second, bitcoins, as detailed earlier, are targets of frequent theft. To date, US\$500 million worth of bitcoins have been stolen or lost.⁹¹

2. Security

The definition of security broadly includes documents commonly traded for investment, as well as variable securities like investment contracts.⁹² Bitcoins appear to meet the definition of an investment contract and the broad definition of a security.

In *Securities and Exchange Commission v. W.J. Howey*, the United States Supreme Court established the definition of an investment

84. See *id.* at 13.

85. See *Frequently Asked Questions*, *supra* note 2.

86. See *id.*

87. See Brian Fung, *Why Do Bitcoin Exchanges Quote Different Prices?*, WASH. POST (Nov. 24, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/24/why-do-bitcoin-exchanges-quote-different-prices/>.

88. See Mittal, *supra* note 79, at 16.

89. See *id.*

90. See Yermack, *supra* note 30, at 14-15.

91. See Love, *supra* note 39.

92. See *Sec. & Exch. Comm'n v. W.J. Howey Co.*, 328 U.S. 293, 297 (1946); *Reves v. Ernst & Young*, 494 U.S. 56 (1990).

contract.⁹³ An investment contract is any contract, transaction, or scheme involving an investment of money in a common enterprise, with the expectation that profits will be derived from the efforts of another person.⁹⁴

Investment of money is defined broadly to include virtually every contribution of capital or services.⁹⁵ Courts look to whether investors subjected themselves to financial loss by committing assets to the enterprise.⁹⁶ One court recently ruled that bitcoins are an investment of money because they can be used to buy goods and services.⁹⁷

Howey distinguishes use for investment, which is a security, and use for consumption, which is not a security.⁹⁸ Thus, bitcoins purchased as a speculative investment would be an investment of money, whereas bitcoins used to purchase a good would not be.

Common enterprise refers to the relationship between the promoter and the investors.⁹⁹ Courts across the United States are divided as to whether horizontal or vertical commonality is required.

Horizontal commonality occurs when there is a pooling of money into a common fund that is used to fund the enterprise.¹⁰⁰ Everyone who has money in the common fund shares the risk of loss and the hope of profits.¹⁰¹

Vertical commonality has at least two forms: the “broad” form and the “strict” form.¹⁰² The broad form means an enterprise in which the fortunes of the investor are linked with the efforts and success of the promoter.¹⁰³ The strict form requires the investor’s profits to be dependent on the promoter’s efforts.¹⁰⁴

An investment of money in bitcoins could have commonality. The profits of Bitcoin investors are directly tied to the appreciation or depreciation of the bitcoin’s value, which is a direct result of the efforts

93. See *Howey*, 328 U.S. at 298.

94. See *id.*

95. See *id.*

96. See *id.*

97. See Sec. & Exch. Comm’n v. Trendon T. Shavers & Bitcoin Savings & Trust, No. 4:13-CV-416, 2013 WL 4028182, at *2 (E.D. Tex. Aug. 6, 2013).

98. See *Howey*, 328 U.S. at 299.

99. See *id.* at 298.

100. See Miriam R. Albert, *The Howey Test Turns 64: Are the Courts Grading This Test on a Curve?*, 2 WM. & MARY BUS. L. REV. 1, 16-17 (2011).

101. See *id.*

102. See *id.* at 17.

103. See *id.* at 17-18.

104. See *id.*

and success of the miners. The miners maintain the block chain, which is essential to the operation of Bitcoin.¹⁰⁵

Opponents argue that bitcoins have inherent value.¹⁰⁶ Their claim is that the value of the bitcoin comes from initial design, and not the ongoing efforts of promoters.¹⁰⁷ However, if miners stopped verifying the block chain, bitcoins would not be generated or secure, and their value would decline.¹⁰⁸ This leads to the conclusion that the bitcoin's value lies in the ongoing efforts of the miners, who promote its existence and integrity.¹⁰⁹

Speculative bitcoin users by definition are purchasing the digital currency because they expect an increase in profit. This satisfies the expectation-of-profit test.

The expectation that profits will be derived from the efforts of another person requires an examination into the level of control retained by the investor.¹¹⁰ Investors who have little to no control of the operations are considered passive investors, and are more likely to be protected by securities law.¹¹¹ Speculative bitcoin investors have no involvement in the operation of Bitcoin. Instead, they rely on the miners to control the operations by maintaining the block chains that are integral to Bitcoin.¹¹²

Bitcoins used for speculative purposes may be considered a security, due to the investment of money, common enterprise, and expectation that profits will be derived from the efforts of another person.

The definition of a security is purposely broad to include anything sold as an investment.¹¹³ The purpose of the Securities Act is to eliminate abuses in the securities market.¹¹⁴ Securities are susceptible to manipu-

105. See *Frequently Asked Questions*, *supra* note 2.

106. See Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH L.J. 159, 200 (2011). See generally Kirill Gourov, *Measuring the Intrinsic Value of Cryptocurrency*, SCRIBD., <http://www.scribd.com/doc/218448392/Measuring-the-Intrinsic-Value-of-Cryptocurrency> (last visited Sept. 12, 2014).

107. See Grinberg, *supra* note 106.

108. See *id.*

109. See Paul H. Farmer Jr., *Speculative Tech: The Bitcoin Legal Quagmire & the Need for Legal Innovation*, 9 J. BUS. & TECH. L. 85, 102 (2014), available at <http://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=1219&context=jbtl>.

110. See *id.*

111. See *id.*

112. *Frequently Asked Questions*, *supra* note 2.

113. See *Reves v. Ernst & Young*, 494 U.S. 56, 60-62 (1990).

114. See Derek A. Dion, Note, *I'll Gladly Trade You Two Bits on Tuesday for a Byte Today: Bitcoin, Regulating Fraud in the E-Conomy of Hacker-Cash*, 2013 U. ILL. J.L. TECH. & POL'Y 165, 176.

lation and give rise to excessive speculation and price fluctuation.¹¹⁵ Bitcoins sold as an investment may be encompassed by the Securities Act, due to their excessive speculation and volatility.

The SEC has not issued guidance or interpretation concerning the bitcoin.¹¹⁶ SEC Chairman Mary Jo White, however, has stated that the issue of whether bitcoins are securities depends on specific facts and circumstances regarding a particular use.¹¹⁷ Notably, the SEC has prosecuted entities selling interests in bitcoins.¹¹⁸

3. Commodity

“Commodity” is defined as a good used in commerce that is interchangeable with other goods of the same type.¹¹⁹ Commodities are typically traded to hedge against economic risk.¹²⁰ Traditional commodities include tangible goods like grains, oil, and beef.¹²¹ Technological advances have expanded the definition to include interest rates, foreign currencies, and cell phone bandwidth.¹²²

Bitcoins appear to fit the definition of a commodity: they can be used in commerce, are interchangeable with other goods of the same type, and can be traded to hedge against economic risk.

The CFTC has authority over commodities traded for future delivery.¹²³ Although bitcoins may fall within the definition of commodities, ordinary bitcoin transactions are not subject to the authority of the CFTC because they are traded instantly. However, bitcoins traded for future delivery, including swaps and Exchange Traded Funds, may be subject to CFTC regulations.¹²⁴ Bitcoins may also be subject to the

115. *See id.*

116. *See* Todd P. Zerega & Thomas H. Watterson, *Regulating Bitcoins: CFTC vs. SEC?*, MONDAQ, <http://www.mondaq.com/unitedstates/x/283878/Commodities+Derivatives+Stock+Exchanges/Regulating+Bitcoins+CFTC+vs+SEC> (last updated Jan. 2, 2014).

117. *See id.*

118. *See SEC Charges Bitcoin Entrepreneur with Offering Unregistered Securities*, U.S. SEC. & EXCH. COMM’N (June 3, 2014), <http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370541972520#>.

119. *See Commodity*, INVESTOPEDIA, <http://www.investopedia.com/terms/c/commodity.asp> (last visited Feb. 25, 2014).

120. *See id.*

121. *See id.*

122. *See id.*

123. *See Industry Oversight*, U.S. COMMODITY FUTURES TRADING COMM’N, <http://www.cftc.gov/IndustryOversight/index.htm> (last visited Feb. 26, 2014).

124. *See* David Groshoff, *Kickstarter My Heart: Extraordinary Popular Delusions and the Madness of Crowdfunding Constraints and Bitcoin Bubbles*, 5 WM. & MARY BUS. L. REV. 489,

futures requirements prohibiting their use in retirement, insurance, or pension funds.¹²⁵

The CFTC has not issued any official guidance concerning digital currencies.¹²⁶ However, CFTC Commissioner Bart Chilton announced his belief that, if traded for future delivery, bitcoins would come under CFTC supervision.¹²⁷

D. Proposed Regulations

1. Miners

Bitcoin miners are intermediaries between the creation and transfer of bitcoins.¹²⁸ In this way, they are similar to traditional securities brokers, who facilitate trading between exchanges and investors. Securities brokers are required to register with the FINRA and to adhere to professional conduct guidelines.¹²⁹ Thus, regulators may consider requiring bitcoin miners to register with an oversight authority and to adhere to conduct guidelines.

2. Exchanges

Most large-scale theft occurs at bitcoin exchanges.¹³⁰ Thus, regulating the exchanges is an integral part of regulating the bitcoin. As bitcoins may meet the definitions of security and commodity, bitcoin exchanges may fall under the jurisdiction of the SEC and the CFTC.

Similar to securities exchanges,¹³¹ bitcoin exchanges may be subject to accounting and auditing requirements. Similar to traditional derivatives,¹³² bitcoin exchanges may be required to adhere to liquidity

528 (2014); Nikolei M. Kaplanov, Comment, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation*, 25 LOY. CONSUMER L. REV. 111, 147 (2012-2013).

125. See Mark P. Cussen, *5 Investments You Can't Hold in an IRA/Qualified Plan*, INVESTOPEDIA, <http://www.investopedia.com/articles/retirement/11/impermissible-retirement-investments.asp> (last visited Sept. 2, 2014).

126. See Zerega & Watterson, *supra* note 116.

127. See *id.*; see also Douwe Miedema, *U.S. Swaps Watchdog Says Considering Bitcoin Regulation*, REUTERS (Mar. 11, 2014, 6:26 PM), <http://www.reuters.com/article/2014/03/11/us-bitcoin-regulation-idUSBREA2A1W020140311>.

128. See *Frequently Asked Questions*, *supra* note 2.

129. See *What We Do*, FINRA, <http://www.finra.org/AboutFINRA/WhatWeDo/> (last visited Feb. 26, 2014).

130. See Perlroth, *supra* note 34.

131. See *The Investor's Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation*, U.S. SEC. & EXCH. COMM'N, <http://www.sec.gov/about/whatwedo.shtml> (last visited Feb. 24, 2014).

132. See *Industry Oversight*, *supra* note 123.

requirements, because requiring digital currency exchanges to keep certain amounts on margin in case of theft or a large decrease in price would provide reprieve to investors who would lose value.

IV. CONCLUSION

Bitcoin's recent popularity creates a problem for investors and regulators. The bitcoin market offers advantages to traditional currencies, yet poses a substantial threat to investors. Regulation is required to protect bitcoin users from serious risk; however, regulators are unclear on the best way to regulate the bitcoin.

The bitcoin should not be regulated as a currency because it does not function as a reliable medium of exchange, unit of account, or store of value. Instead, the bitcoin should be regulated as a security because it fits the definition of an investment contract and the broad definition of a security. Bitcoins traded for future delivery should also be regulated as a commodity.

Bitcoin regulation should strike a balance between protecting investors and allowing the digital asset to grow. The best regulation to achieve these ends is increased transparency in the bitcoin marketplace. Increased transparency may protect investors from fraud, deter theft, and diminish the appeal of using virtual currency for illegal purposes. Regulation may also increase confidence among consumers and investors.

Bitcoin miners should be required to register with an authority organization and to adhere to set guidelines. Bitcoin exchanges should be subject to reporting and margin requirements. These regulations will increase transparency in the bitcoin marketplace and offer protection to investors.