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A Regulatory and Economic Perplexity: Bitcoin Needs Just a Bit of Regulation

Daniela Sonderegger*

[T]here is something special about Bitcoin that makes it inherently resistant to government control. It is built on code. It lives in the cloud. It is globalized and detached from the nation state, has no own institutional owner, operates peer to peer, and its transactions are inherently pseudonymous. It cannot be regulated in the same way as the stock market, government currency markets, insurance, or other financial sectors.

—Jeffrey Tucker¹

INTRODUCTION

Set aside all of the legal and regulatory parameters and simply take a moment to imagine a world that functions on a single digitalized currency, regulated not by a central authority, but rather by the individual users who take part in the system. Imagine being a businessperson, with back-to-back meetings across the globe. Wouldn't it be nice if instead of stopping at the currency exchange in each country or having to notify your bank of your travels, you could simply walk off the plane and go to your favorite coffee shop or restaurant and pay by having the storeowner scan a code on your

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1. Jeffrey Tucker, *Should Bitcoin be Regulated like Dollars*, LAISSEZ FAIRE (May 20, 2013), <http://fb.org/today/should-bitcoin-be-regulated-like-dollars/>.

phone? Bitcoin, a new decentralized peer-to-peer digital currency, aspires to achieve this kind of borderless world.

More than a technological innovation or a view of the future, Bitcoin is poised to threaten the very foundation upon which fiat currency² and monetary policy rest: centralized control. Bitcoin is unnerving precisely because “a world where it [is] used for all transactions is one where the ability of a central bank to guide the economy is destroyed, by design.”³

Bitcoin was developed during a time in which the Federal Reserve plunged into an unprecedented period of monetary intervention to stave off a financial crisis that many argue was brought about by risky, unregulated investments;⁴ a world in which the Cyprus banking crisis⁵ propelled that country into a deep recession,⁶ and a world where Greece, Spain, and Italy have fallen into economic misery.⁷ It is this mistrust of governmental authorities during these unprecedented times that has spurred interest in Bitcoin.⁸

2. Fiat currency is money that a government has designated as the legal tender. However, fiat currency is intrinsically valueless and is not backed by any physical commodity. Consequently, it derives its value from supply and demand and the faith its users place on its value. *Fiat Money*, INVESTOPEdia, <http://www.investopedia.com/terms/f/fiatmoney.asp> (last visited Aug. 24, 2014).

3. Alex Hern, *Is Bitcoin About to Change the World?*, THE GUARDIAN (Nov. 25, 2013), <http://www.theguardian.com/technology/2013/nov/25/isbitcoin-about-to-change-the-world-peer-to-peer-cryptocurrency-virtual-wallet>.

4. *See generally* THE FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT xvi (2011), available at <http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf> (“[I]t was the collapse of the housing bubble—fueled by low interest rates, easy and available credit, scant regulation, and toxic mortgages—that was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008.”). Note that this document is a partisan, rather than a bipartisan document as the two Republican appointees dissented. *Id.* at viii.

5. Bitcoins became popular in Cyprus when the government threatened to tax anyone with a bank account by at least 6.75%. Felix Salmon, *The Bitcoin Bubble and the Future of Currency*, MEDIUM, <https://medium.com/money-banking/2b5ef79482cb> (last updated Nov. 27, 2013). Bitcoins became a preferable choice in this situation because the government could not confiscate them nor prevent individuals from transporting them outside of the country. *Id.*

6. *See Cyprus: 2014 Article IV Consultation Concluding Statement of the IMF Mission*, INTERNATIONAL MONETARY FUND (July 30, 2014), <http://www.imf.org/external/np/ms/2014/073014.htm>.

7. *See, e.g.*, Bob Chapman, *Europe’s Economic Crisis*, GLOBAL RESEARCH (Mar. 14, 2012), <http://www.globalresearch.ca/europe-s-economic-crisis-portugal-ireland-spain-italy-and-belgium-are-heading-in-the-same-direction-as-greece/29766>.

8. Salmon, *supra* note 5.

Bitcoin has essentially turned the mistrust of existing financial institutions into a philosophy.⁹ It is the first decentralized digital currency (meaning it has no central regulatory entity).¹⁰ Hailed the ultimate alternative to the global banking system, Bitcoin is a payment system that allows international transactions to take place at any hour, in any place, at a very low cost.¹¹ Politically, Bitcoin seeks to separate money from the state's regulatory power.¹² Elizabeth Ploshay, a writer for *Bitcoin Magazine* describes it as “[A] movement”—a crusade in the costume of a currency. Depending on whom you talk to, the goal is to unleash repressed economies, to take down global banking or to wage a war against the Federal Reserve.”¹³

Others have described Bitcoin as a victory for individuals who seek payment transactions without barriers and surveillance.¹⁴ Bitcoin represents an opportunity for countries without a developed financial sector to send and receive payments without barriers and excessive remittance¹⁵ fees.¹⁶ These reduced transaction costs can encourage small value transactions that will aid in the development of small businesses and can provide financial access to nations with underdeveloped financial sectors.¹⁷

9. Alan Feuer, *The Bitcoin Ideology*, N.Y. TIMES (Dec. 14, 2013), <http://www.nytimes.com/2013/12/15/sunday-review/the-bitcoin-ideology.html>.

10. *How Does Bitcoin Work?*, THE ECONOMIST (Apr. 2013), <http://www.economist.com/blogs/economist-explains/2013/04/economist-explains-how-does-bitcoin-work>.

11. Feuer, *supra* note 9.

12. *Id.*

13. *Id.*

14. Jon Matonis, *Bitcoin Ideology and the Tale of Casascius Coins*, FINANCIAL SENSE (Dec. 26, 2013), <http://www.financialsense.com/contributors/jon-matonis/bitcoin-ideology-casascius-coins>.

15. Remittance is defined as “The process of sending money to remove an obligation. This is most often done through an electronic network, wire transfer or mail. The term also refers to the amount of money being sent to remove the obligation.” *Remittance*, INVESTOPEDIA, <http://www.investopedia.com/terms/r/remittance.asp> (last visited Aug. 24, 2014).

16. *See Inside Bitcoins Panel—Moving Bitcoin Forward*, COINSIDER THIS! (Dec. 30, 2013), <http://www.coinsiderthis.com/tag/regulation/> (stating that Bitcoins would benefit emerging markets such as Africa and Asia by circumventing high remittance costs in international payments).

17. *Id.*

Skeptics see Bitcoin as a questionable economic scheme wrapped up in a of libertarian political agenda.¹⁸ They think Bitcoin users and believers are disconnected from the world's financial problems and lack an understanding of the central bank's role.¹⁹ What is worse is that many view Bitcoin as a safe-haven for criminal activity.²⁰

The truth may lie somewhere in between. The fact of the matter is that Bitcoin has evolved into a powerful, disruptive payment system.²¹ Governments around the world, threatened by Bitcoin's ideological underpinnings but awed by its technological potential, find themselves in somewhat of a dilemma²² On the one hand, regulation seems necessary.²³ On the other, Bitcoin rejects centralized control and exists exclusively on the Internet, meaning that true, effective regulation can exist only through worldwide cooperation,²⁴ which is costly, not to mention highly complex.

Presently, many merchants around the world accept Bitcoin as currency.²⁵ Furthermore, the US government has not prohibited the

18. See, e.g., Alex Payne, *Bitcoin, Magical Thinking, and Political Ideology*, AL3X.NET (Dec. 18, 2013), <https://al3x.net/2013/12/18/bitcoin.html>.

19. *Id.*

20. See generally DIRECTORATE OF INTELLIGENCE, FED. BUREAU OF INVEST., (U) BITCOIN VIRTUAL CURRENCY: UNIQUE FEATURES PRESENT DISTINCT CHALLENGES FOR DETERRING ILLICIT ACTIVITY 2 (2012), available at http://www.wired.com/images_blogs/threatlevel/2012/05/Bitcoin-FBI.pdf [hereinafter FBI INTELLIGENCE ASSESSMENT] ("Bitcoin will likely continue to attract cyber criminals who view it as a means to move or steal funds as well as a means of making donations to illicit groups. If Bitcoin stabilizes and grows in popularity, it will become an increasingly useful tool for various illegal activities beyond the cyber realm.").

21. Feuer, *supra* note 9.

22. See Ofir Beigel, *Bitcoin Worldwide Legal and Adoption Status*, 99 BITCOINS (Dec. 30, 2013), <http://99bitcoins.com/bitcoin-worldwide-adoption-status/>.

23. See generally Walter Frick, *Why Bitcoin Entrepreneurs are Begging for more Regulation*, HARVARD BUS. REV. (Mar. 26, 2014), <http://blogs.hbr.org/2014/03/why-bitcoin-entrepreneurs-are-begging-for-more-regulation/> (noting that regulatory uncertainty is holding back Bitcoin development).

24. See Tim Davaney, *Carper: Bitcoin Should 'Lead Way' in Bitcoin Regulation*, THE HILL (Feb. 3, 2014), <http://thehill.com/regulation/legislation/197310-carper-us-should-lead-way-in-bitcoin-regulation> ("This report underscores that Bitcoin and other virtual currencies are present and growing in major economies, supporting the call for increased global cooperation.").

25. See, e.g., Mark Macdonald, *75 Places to Spend Your Bitcoin*, ECOMMERCE MKTG. BLOG (Nov. 30, 2013), <http://www.shopify.com/blog/10480345-75-places-to-spend-your-bitcoins#axzz2qgOw8kl5> (listing retailers that accept Bitcoins). See also Pete Rizzo, *Bitcoin Micropayments Get Big Moment as Chicago Sun-Times Paywall Experiment Goes Live*, COINDESK (Feb. 1, 2014), <http://www.coindesk.com/micropayments-chicago-sun-times-paywall->

currency and some within the government have recognized the value of the technology.²⁶ Despite wider acceptance, Bitcoin is not yet fully understood and continues to exist under extreme regulatory uncertainty.²⁷

This Note analyzes Bitcoin and ultimately proposes a short-term solution to Bitcoin's regulatory uncertainty: one that aims to balance the government's interest in regulation and Bitcoin's very rejection of central authority. Part I of this Note introduces Bitcoin, including an analysis of Bitcoin's strengths and weaknesses for mainstream adoption. Part II presents the current regulatory landscape and analyzes the possible classifications and regulations under which Bitcoin could potentially fall. Finally, Part III of this Note proposes that the US government's best alternative to regulating Bitcoin is something shy of full-fledged regulation. Instead, this Note argues that Bitcoin should be allowed to function within a loosely defined legal framework and permitted to develop with only a minimal degree of governmental intervention.

I. HISTORY

A. *Bitcoin and the Future of Digital Currencies*

Bitcoin is the world's first decentralized currency that is not linked to any real world currency or commodity.²⁸ Bitcoin refers both to the Bitcoin Payment System (Bitcoin), which is a peer-to-peer network that does not rely on any central government authority to

live/ (noting that the Chicago Sun-Times, the ninth largest newspaper in the US, is the first major US publication to accept Bitcoins).

26. See *Bitcoin Hits New Heights as US Lends Legitimacy to Virtual Currencies in Hearing*, RT (Nov. 19, 2013), <http://rt.com/usa/bitcoin-legitimate-senate-hearing-931/>.

27. See generally Katten Muchin Rosenman LLP, *United States: Bitcoin: Current US Regulatory Developments*, MONDAQ (Nov. 28, 2013), <http://www.mondaq.com/unitedstates/x/277850/Financial+Services/Bitcoin+Current+US+Regulatory+Developments> (exploring Bitcoin's legal framework in the United States and describing Bitcoin's lack of legal classification for regulatory purposes). *But see infra* note 171 (determining Bitcoin is property for tax purposes).

28. See EUROPEAN CENT. BANK, *VIRTUAL CURRENCY SCHEMES 21* (2012), available at <http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>.

function,²⁹ as well as the denomination of the currency (bitcoin).³⁰ The Bitcoin payment system relies on a collective network that issues, transacts, processes and verifies all bitcoin transactions.³¹ This process is termed a “proof-of-work system.”³² Each time a transaction occurs, users must solve a mathematical puzzle to verify the transaction.³³ Once it is verified, the transaction is recorded within the network on what is called a “block-chain.”³⁴

The purpose of the Bitcoin payment system, according to the founder of Bitcoin, Satoshi Nakamoto,³⁵ is to overcome today’s “trust based model.”³⁶ Nakamoto authored a paper when he launched Bitcoin describing the weaknesses of today’s so-called “trust model,” which relies on trusted third party financial institutions to process payments.³⁷ Inherent in Nakamoto’s argument is a critique of the reversibility of current transactions.³⁸ Trusted third parties are unable to avoid mediating disputes or guarantee finality in each payment, which inevitably increases users’ transaction costs.³⁹ The possibility of reversal heightens the need for trust and causes a certain level of fraud to become acceptable in the system.⁴⁰

29. DANIELLE DRAINVILLE, AN ANALYSIS OF THE BITCOIN ELECTRONIC CASH SYSTEM 10 (2012), available at <https://math.uwaterloo.ca/combinatorics-and-optimization/sites/ca.combinatorics-and-optimization/files/uploads/files/Drainville,%20Danielle.pdf>.

30. See David Bergstein, *Understanding Bitcoin*, HUFFINGTON POST, http://www.huffingtonpost.com/david-bergstein/understanding-bitcoin_b_5451488.html (last updated Aug. 5, 2014).

31. Investopedia Staff, *How Bitcoin Works*, FORBES (Aug. 1, 2013), <http://www.forbes.com/sites/investopedia/2013/08/01/how-bitcoin-works/>.

32. DRAINVILLE, *supra* note 29, at 10, 13–15.

33. See Richard Satran, *How did Bitcoin Become a Real Currency?*, U.S. NEWS & WORLD REPORT (May 15, 2013), <http://money.usnews.com/money/personal-finance/articles/2013/05/15/how-did-bitcoin-become-a-real-currency>. This process is called “mining,” and will be further described in the body of the note. See *infra* notes 51–56 and accompanying text.

34. Satran, *supra* note 33.

35. See Alec Liu, *Who is Satoshi Nakamoto, The Creator of Bitcoin?*, MOTHERBOARD (May 22, 2013), <http://motherboard.vice.com/blog/who-is-satoshi-nakamoto-the-creator-of-bitcoin> (“The name Satoshi Nakamoto is believed to be a pseudonym for a person, a group, or even a larger, possibly governmental organization.”).

36. See SATOSHI NAKAMOTO, BITCOIN: A PEER TO PEER ELECTRONIC CASH SYSTEM 1, available at <http://bitcoin.org/bitcoin.pdf>.

37. *Id.*

38. *Id.*

39. *Id.* The use of third parties also limits minimal practical transaction size and cuts off the possibility of small casual transactions. *Id.*

40. *Id.*

A better system, Nakamoto argues, is based on cryptographic proof that allows any two parties to transact with each other without the need for a trusted third party.⁴¹ Transactions that are computationally impractical to reverse, Nakamoto argues, will protect sellers against fraud and eliminate the need for third parties.⁴² Bitcoin, at its core, is therefore a payment system or a platform through which payments can be made.⁴³

The Bitcoin system overcomes a need for third party intervention mainly through a combination of a process called mining and a shared public ledger (the block-chain).⁴⁴ The shared public ledger is a block-chain, which chronologically records every transaction in the system, and forms the backbone of the Bitcoin verification network.⁴⁵ Every time a transaction is confirmed, it is included in the block-chain and recorded on every node, or in other words, on every computer, in the Bitcoin network.⁴⁶

To ensure both privacy and validity, each Bitcoin user has a secret private key used to sign the transactions. Each user also has a public key or account number that is visible to other users.⁴⁷ The signature provides a mathematical proof that the transaction has come from a particular Bitcoin user, and it prevents the transaction from being

41. *Id.* This system is particularly appealing within the current context of global financial turmoil because it is these very trusted third parties that brought about the crises with what many would consider to be their reckless behaviors. Salmon, *supra* note 5.

42. See NAKAMOTO, *supra* note 36, at 1. It is noteworthy that Bitcoin's irreversibility protects against charge-back fraud rather than fraud in general. Vatalik Buterin, *Bitcoin and Consumer Economies in the non-Western World*, BITCOIN MAGAZINE (Mar. 5, 2012), <http://bitcoinmagazine.com/340/bitcoin-and-consumer-economies-in-the-non-western-world/>. Merchants who accept credit card payments are always on the hook for payment reversals, called chargebacks, from customers who claim that the product was never delivered. *Id.* Merchants who wish to dispute the claim must bear the cost of a formal dispute process. *Id.* Bitcoin's irreversibility therefore protects merchants from the misuse of customer charge-backs, more so than from other types of fraud. *Id.*

43. See Marc Andreessen, *Why Bitcoin Matters*, N.Y. TIMES (Jan. 21, 2014), http://dealbook.nytimes.com/2014/01/21/why-bitcoin-matters/?_php=true&_type=blogs&_r=0 (noting that Bitcoin's value is derived from its use as a payment system where people can trade in the currency at any time and in any place with little to no fees involved).

44. NAKAMOTO, *supra* note 36, at 3.

45. *How Does Bitcoin Work?*, BITCOIN, <http://bitcoin.org/en/how-it-works> (last visited Feb. 1, 2014).

46. *Id.*

47. EUROPEAN CENT. BANK, *supra* note 28, at 23.

altered once it has been issued.⁴⁸ Each transaction, as briefly mentioned above, is verified through a distributed consensus system (or proof of work system) called mining.⁴⁹

Mining essentially entails solving a series of complex mathematical puzzles that create additional blocks in the block-chain.⁵⁰ Because Bitcoin is decentralized and lacks a verifying centralized authority, Bitcoin transactions are confirmed through this mining process.⁵¹ In order to incentivize the verification process, which is costly because it requires a lot of computing power, those who participate in the verification process⁵² and who first successfully solve the mathematical puzzle are rewarded with a certain amount of bitcoins.⁵³ The system therefore protects the neutrality of the network by allowing different computers to agree on the state of the system and also making repudiation of transactions impossible.⁵⁴ Therefore, Bitcoin relies on the public network to circumvent the use of third party financial institutions.⁵⁵

48. *How Does Bitcoin Work?*, *supra* note 45.

49. *Id.*

50. Jan Reess-Alaric, *Making Sense of Bitcoin—Part 1*, FINEXTRA (Aug. 16, 2013), <http://www.finextra.com/community/fullblog.aspx?blogid=8039>.

51. See Adam Levitin, *The Behavioral Economics of Bitcoin*, CREDIT SLIPS (Jan. 11, 2014), <http://www.creditslips.org/creditslips/2014/01/the-behavioral-economics-of-bitcoin.html>.

52. *Id.*

53. Jan Reess-Alaric, *supra* note 50. Currently, the system that solves the puzzle gets twenty-five Bitcoins. Ashlee Vance & Brad Stone, *The Bitcoin-Mining Arms Race Heats Up*, BLOOMBERG BUSINESSWEEK (Jan. 9, 2014), <http://www.businessweek.com/articles/2014-01-09/bitcoin-mining-chips-gear-computing-groups-competition-heats-up>. Every four years the number of Bitcoins awarded per validated transaction is reduced by 50 percent. The generation of Bitcoins in circulation is capped at 21 million, meaning that after 21 million Bitcoins are mined, no new Bitcoins can be created. EUROPEAN CENT. BANK, *supra* note 28, at 24–25 (noting that approximately six new Bitcoins are created every hour, but because of the cap and the geometric decrease, the number of Bitcoins in existence will reach 21 million around the year 2040). Purchased or mined Bitcoins are stored on the user's computer in a digital wallet or using an online wallet service. CRAIG K. ELWELL ET AL., CONG. RESEARCH SERV., R43339, BITCOIN: QUESTIONS, ANSWERS, AND ANALYSIS OF LEGAL ISSUES 2 (2013), available at <http://www.fas.org/sgp/crs/misc/R43339.pdf>.

54. Through the mining process, that is, packaging each transaction into blocks that abide by strict cryptographic rules, computers on the network have a public, chronological record of each transaction. *How Does Bitcoin Work?*, *supra* note 45. These cryptographic rules “prevent previous blocks from being modified because doing so would invalidate all following blocks. Mining also creates the equivalent of a competitive lottery that prevents any individual from easily adding new blocks consecutively in the block chain. This way, no individuals can control what is included in the block chain or replace parts of the block chain to roll back their own spends.” *How Does Bitcoin Work?*, *supra* note 45; *But see infra* note 138 and accompanying

B. Bitcoin Advantages

As a form of new and innovative digital currency and payment system, Bitcoin presents a number of attractive features both for its users and for potential mainstream adoption.

First, Bitcoin excels at addressing counterfeiting. In the digital currency environment, counterfeiting is known as the double-spending problem, which means using the same currency twice.⁵⁶ Financial intermediaries have been set up to guarantee that no party will attempt to double spend a currency.⁵⁷ Bitcoin, however, has successfully circumvented this intermediary through its block-chain.⁵⁸ The sheer computational force required to alter the block-chain,⁵⁹ together with the chronological recording of each transaction engrained in the public ledger on each computer in the network ensures that the same coin cannot be spent twice.⁶⁰

Because costs associated with currency exchange rates and other governmental barriers are avoided, Bitcoin enables small value transactions, which facilitate e-commerce and international trade.⁶¹

text. As such, mining protects against double spending because the process of block creation and the recording of each block on the public ledger will ultimately show that user one sent his bitcoins to user two before sending those very same coins to user three, ensuring that only two's ownership of the bitcoins is verified in the public ledger. Adam Levitin, *supra* note 51.

55. *How Bitcoin Mining Works*, COINDESK, <http://www.coindesk.com/information/how-bitcoin-mining-works/> (last updated Mar. 6, 2014).

56. Thomas Lowenthal, *Bitcoin: Inside the Encrypted, Peer-to-Peer Digital Currency*, ARS TECHNICA (June 8, 2011), <http://arstechnica.com/tech-policy/2011/06/bitcoin-inside-the-encrypted-peer-to-peer-currency/>.

57. Joshua J. Doguet, *The Nature of the Form: Legal and Regulatory Issues Surrounding the Bitcoin Digital Currency System*, 73 LA. L. REV. 1119, 1128 (2013).

58. *Id.*

59. *Id.* A tremendously powerful computer is needed mainly because the computer has to process and store a large and ever growing blockchain, as nodes are added to the chain every 10 minutes. *How does Bitcoin Work?*, *supra* note 10.

60. Adam Levitin, *supra* note 51.

61. Lauren Orsini, *Why Small Businesses Have the Most to Gain from Bitcoin*, READWRITE (Nov. 6, 2013), <http://readwrite.com/2013/11/06/why-small-businesses-have-the-most-to-gain-from-bitcoin#awesm=~osLaDuMl6petRE>. Bitcoin is the first currency that can be used for micropayments because bitcoins are divisible to such a great extent: currently down to eight decimal places after the point. Andreessen, *supra* note 43. Consequently, very small, arbitrary amounts of money can be sent to anyone in the world at almost no cost. *Id.* Bitcoin also facilitates trade because it is a "censorship resistant currency," meaning the government cannot tell the users where and how to spend their bitcoins because there is no central regulatory authority. Future Money Trends, *Bitcoin is the Universal Glue & Open Transactions*

These reduced costs mean the currency can be used in any transaction around the world to encourage the development of small businesses and allow very small-scale payments to become prominent.⁶² The Bitcoin's design makes it ideal as the *lingua franca* of commerce conducted online.⁶³ Bitcoin's global reach could potentially aid developing markets by connecting people without access to bank accounts to the world economy.⁶⁴

Moreover, some have argued that Bitcoin is particularly appealing because the value cap, set at twenty-one million, prevents inflation.⁶⁵ When that amount is reached, no more bitcoins will ever be created.⁶⁶ Theoretically, this should keep inflation low and thereby place investment and spending on surer ground.⁶⁷ Furthermore, if Bitcoin were to be widely accepted, its capping mechanism would prevent governments from saturating financial markets with bitcoins simply because they think the market needs more money.⁶⁸

is the Future, Chris Odom Interview, YOUTUBE (Nov. 25, 2012), <https://www.youtube.com/watch?v=Vfhhjkge4fs> (begin at 1:24).

62. Orsini, *supra* note 61 (quoting Jerry Brito, "With Bitcoin, you don't need permission to start accepting it. And fees [which go to Bitcoin miners, to help run the network] are less than one percent.").

63. Salmon, *supra* note 5 ("Bitcoin was designed . . . to be, in effect, the *lingua franca* of online commerce.").

64. Jeff Fong, *Bitcoin Price 2013: How Bitcoin Could Help the World's Poorest People*, POLICY MIC (May 14, 2013), <http://www.policymic.com/articles/41561/bitcoin-price-2013-how-bitcoin-could-help-the-world-s-poorest-people>. People in developing countries could use Bitcoin as a method for transferring funds, while avoiding the excessively high remittance payments. *Id.*

65. See Doguet, *supra* note 57, at 1130–31.

66. Nicholas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF*, 14 CHI. J. INT'L L. 337, 387 (2013) ("In other words, the maximum number of Bitcoins in circulation is finite. Given the rate at which the success of Bitcoin mining slows, Bitcoin generation is estimated to come to halt in 2025."). Note discrepancy with European Cent. Bank, *supra* note 28, at n.59 and accompanying text (noting date of cap as 2040). This discrepancy is likely due to increased mining levels, which explains the reduction in the predicted year the Bitcoin cap will be reached.

67. J.P. & G.T., *Bits and Bob*, ECONOMIST (June 13, 2011), <http://www.economist.com/blogs/babbage/2011/06/virtual-currency>.

68. James Wyss, *Bitcoin Price 2013: Digital Currency is the Future of Payments*, POLICY.MIC (May 17, 2013), <http://www.policymic.com/articles/42629/bitcoin-price-2013-digital-currency-is-the-future-of-payments>. An essential criticism regarding Bitcoin's immunity to inflationary pressures is that, on the flipside, it may be prone to deflation, which tends to be a destructive force in modern economics. See Salmon, *supra* note 5.

C. Challenges For Mainstream Acceptance

Although Bitcoin has increasingly become an attractive alternative to legal tender currencies, it suffers from fundamental flaws that are detrimental to its widespread adoption. First and foremost, governments are highly concerned about Bitcoin's susceptibility to criminal activity.⁶⁹ Because Bitcoin offers varying degrees of anonymity to its users, digital currencies have been increasingly associated with money laundering and other criminal activities.⁷⁰ One of the most prominent examples is Silk Road, a digital black market where Bitcoin was used exclusively to buy and sell illegal drugs.⁷¹ Prior to the website's shut down, the market used a combination of

69. See generally FBI INTELLIGENCE ASSESSMENT, *supra* note 20 (describing the FBI's concern that Bitcoin's nature as a decentralized digital currency attracts cyber criminals and is a useful tool for illegal activity in general).

70. See, e.g., E.J. Fagan, Op-Ed., *Bitcoin and International Crime*, BALTIMORE SUN (Nov. 25, 2013), <http://www.baltimoresun.com/news/opinion/oped/bs-ed-bitcoin-20131125,0,3265347.story> ("By largely eliminating intermediaries, bitcoin allows individuals to conduct transactions without being subject to anti-money laundering controls, which makes it an attractive currency to criminals—particularly those who prey on the weak."). Bitcoins, however, are not completely untraceable or anonymous. *But see* JERRY BRITO & ANDREA CASTILLO, BITCOIN: A PRIMER FOR POLICYMAKERS 9 (2013), available at http://mercatus.org/sites/default/files/Brito_BitcoinPrimer_v1.3.pdf

In reality, it is very difficult to stay anonymous in the Bitcoin network. Pseudonyms tied to transactions recorded in the public ledger can be identified years after an exchange is made. Once Bitcoin intermediaries are fully compliant with bank secrecy regulations required of traditional financial intermediaries, anonymity will be even less guaranteed, because Bitcoin intermediaries will be required to collect personal data on their customers.

See also ELWELL ET AL., *supra* note 53, at 3 (stating that sophisticated computer analysis can track large Bitcoin transactions on the public ledger).

71. Adrian Chen, *The Underground Website Where You Can Buy Any Drug Imaginable*, GAWKER (June 1, 2011), <http://gawker.com/the-underground-website-where-you-can-buy-any-drug-imag-30818160>; *Manhattan U.S. Attorney Announces Seizure of Additional \$28 Million Worth of Bitcoins Belonging to Ross William Ulbricht, Alleged Owner and Operator of "Silk Road" Website*, FBI NEW YORK FIELD OFFICE (Oct. 25, 2013), <http://www.fbi.gov/newyork/press-releases/2013/manhattan-u.s.-attorney-announces-seizure-of-additional-28-million-worth-of-bitcoins-belonging-to-ross-william-ulbricht-alleged-owner-and-operator-of-silk-road-website> ("During its approximately two-and-a-half years in operation, Silk Road was used by several thousand drug dealers and other unlawful vendors to distribute hundreds of kilograms of illegal drugs and other unlawful goods and services to well over a hundred thousand buyers, and to launder hundreds of millions of dollars derived from these unlawful transactions. All told, the site generated sales revenue of more than 9.5 million Bitcoins and collected commissions from these sales totaling more than 600,000 Bitcoins.").

anonymity enhancing technology and sophisticated user-feedback to enable its users to freely buy and sell illegal drugs.⁷²

The price volatility of Bitcoin also raises concerns. For example, its value ranged significantly from the beginning of 2013, priced at \$13.28 per bitcoin to \$1,147 in early December 2013.⁷³ The inability to convert bitcoins into any specific basket of physical goods or commodities could be a factor affecting its price volatility.⁷⁴ Bitcoin's volatility is particularly problematic because it makes pricing goods and services in bitcoins difficult; this exposes Bitcoin users to substantial exchange rate risks that make the currency less attractive for widespread use.⁷⁵ Nevertheless, some have argued that Bitcoin is not inherently volatile, but rather, that its volatility is a product of its newness.⁷⁶ If that is the case, then Bitcoin's volatility will decrease with its increased use and popularity.

72. *Id.*

73. *Bitcoin Price Index Chart*, COINDESK, <http://www.coindesk.com/price/> (last visited Feb. 2, 2014) (To find the appropriate table, go to the tab labeled "Price" located on the upper portion of the screen, then select "Bitcoin Price Index." A chart indicating Bitcoin price fluctuations will appear below. On the upper right hand side of the chart, you will find two boxes to input a date range. Select January 1, 2013 in the first box and December 31, 2013 in the second box. The CoinDesk BPI Exchange is the table used for this purpose since it shows the highest value when compared to the other exchanges represented on the website for that period.)

74. Johannes Tynes, *Bitcoin: A Future with Digital Currencies*, MONEY HACKER (Aug. 29, 2013), <http://www.moneyhacker.com/195/bitcoin-a-future-with-digital-currencies/>.

75. Radoslav Albrecht, *Bitcoin Volatility: The 4 Perspectives*, BITCOIN MAG. (Aug. 27, 2013), <http://bitcoinmagazine.com/6543/bitcoin-volatility-analysis/>. Albrecht argues, however, that Bitcoin's volatility is in decline. *Id.* As the Bitcoin market becomes increasingly capitalized and each Bitcoin is worth more, the less ones' trades will impact the market price. *Id.* Plus, the more users there are, price volatility will be reduced. *Id.* Therefore, Albrecht optimistically concludes that price volatility decline means greater success for Bitcoin's mainstream adoption. *Id.* Note also that instead of using bitcoins as a currency, they could be used entirely as a payment system (medium of exchange), whereby merchants can trade in bitcoin (avoiding excessive transaction costs) without ever holding on to the currency. Andreessen, *supra* note 43. As such, where payments are made using Bitcoin, the merchant or consumer can immediately switch the received bitcoins back into fiat currency. Andreessen, *supra* note 43.

76. Jerry Brito, Houman Shadab & Andrea Castillo, *Bitcoin Financial Regulation: Securities, Derivatives, Prediction Markets & Gambling* 13 (Aug. 10, 2014), available at <http://ssrn.com/abstract=243461> ("Additionally, as a nascent currency, it is very thinly traded and as a result a single large-enough trade can affect the exchange price substantially. Positive news, such as major retailers announcing they will accept the currency, can make the price jump dramatically, while negative news, such as unfavorable regulatory pronouncements, can send the price plummeting.").

Bitcoin's particular characteristics have also incentivized users to hoard the coins, thereby treating Bitcoin as an investment rather than as a means of exchange.⁷⁷ This incentive to hoard results from the future limited supply of bitcoins,⁷⁸ which is due to the system's capping mechanism.⁷⁹ Bitcoin's limited supply helps it improve its stored value, but people may predict that the price will continue to rise, giving them an incentive to hold the coins instead of spending them in the market.⁸⁰ As such, Bitcoin behaves more like a highly-volatile commodity.⁸¹

Bitcoin has also been criticized for its lack of security and users' inability to bring claims against the wrongdoing party. Bitcoins, stored in ones' personal wallet or in a third party wallet service, are subject to hard drive failures, malware, and user errors.⁸² Holding bitcoins requires a strong encryption scheme and good backup system.⁸³ One small error could wipe out a user's bitcoin holdings overnight.⁸⁴ Users relying on a third party wallet service must also be aware of its shortcomings and potential for fraudulent use. Given the lack of a Federal Deposit Insurance Corporation (FDIC) equivalent for Bitcoin, users who have lost coins have no means of redress.⁸⁵

Additionally, Bitcoin's adoption as a mainstream currency is hindered because storing and acquiring the coins requires great computational capacity. Every node in the network must download a copy of every transaction that has taken place, so that as more people join the system, every transaction becomes more resource-intensive.⁸⁶ To prevent transactions from becoming too large, Bitcoin limits the

77. Tynes, *supra* note 74.

78. *Id.*; See also Doguet, *supra* note 57, at 1130–31

79. Jan Reess-Alaric, *supra* note 50.

80. Tynes, *supra* note 74.

81. Salmon, *supra* note 5.

82. Timothy B. Lee, *Four Reasons You Shouldn't Buy Bitcoins*, FORBES (Apr. 3, 2013), <http://www.forbes.com/sites/timothylee/2013/04/03/four-reason-you-shouldnt-buy-bitcoins/>.

83. Lee, *supra* note 82.

84. *Id.*; See also Cameron Keng, *Bitcoin's Mt. Gox Goes Offline, Losses \$409M—Recovery Steps and Taking your Tax Losses*, FORBES, <http://www.forbes.com/sites/cameronkeng/2014/02/25/bitcoins-mt-gox-shuts-down-loses-409200000-dollars-recovery-steps-and-taking-your-tax-losses/> (last visited Jan. 7, 2015) (describing Mt. Gox's, one of the largest Bitcoin exchanges, shutdown due to a security breach).

85. Lee, *supra* note 82.

86. *Id.*

size of each block.⁸⁷ Currently, Bitcoin transactions are far below the limit, but as the network grows, it will have difficulty effectively dealing with such volume.⁸⁸

Moreover, given Bitcoin's decentralization, all those using the system need to agree on any change by voluntarily updating their software.⁸⁹ This is relatively unproblematic so long as the network remains small and focused, yet presents a concern for further development and improvement of the currency.⁹⁰

Some have argued that Bitcoin's biggest detriment is conceptual, in that its success is closely tied to its potential failure.⁹¹ That is, Bitcoin's value depends on a network; the more people who join the network, the higher the value of the Bitcoin,⁹² but the more prone it is to hyperdeflation.⁹³ If Bitcoin succeeds, an increasing number of goods and services will be traded in Bitcoin, but the increase in Bitcoin demand will outpace the rate of increase in the supply of bitcoins given their limited supply,⁹⁴ causing Bitcoin's value to rise.⁹⁵ Therefore, the number of bitcoins per each unit of goods and services will fall, triggering deflation.⁹⁶ Felix Salmon, a prominent early

87. See Timothy B. Lee, *Bitcoin Needs to Scale by a Factor of 1000 to Compete with Visa*, WASH. POST (Nov. 12, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/12/bitcoin-needs-to-scale-by-a-factor-of-1000-to-compete-with-visa-heres-how-to-do-it/> (noting that each block is limited to one megabyte).

88. *Id.* Currently, the Bitcoin network can process around seven transactions per second. *Id.* Right now, only about one transaction per second is taking place. *Id.*

89. Tynes, *supra* note 74.

90. *Id.*

91. Salmon, *supra* note 5.

92. The people on the network determine the value of the currency; so as long as people continue to buy into the system, the value of the currency will grow. Elizabeth Gillis (producer), See *Why Bitcoin is Not Likely to be the Currency of the Future*, PUB. RADIO INT'L (Oct. 4, 2013, 2:15 PM), <http://www.pri.org/stories/2013-10-04/why-bitcoin-not-likely-be-currency-future>.

93. See *id.* (noting that the more Bitcoin rises in value, the value of the goods and services priced in bitcoins declines. For example, a gold bar priced at \$600,000 at \$60 per bitcoin has a value of \$10,000 in bitcoin. If the price of Bitcoin rises, however, say to \$6,000, then the value of the gold bar in bitcoins declines to 100 bitcoins.)

94. Yanis Varoufakis, *Bitcoin and the Dangerous Fantasy of 'Apolitical' Money*, TRUTHDIG (Dec. 26, 2013), http://www.truthdig.com/report/item/bitcoin_and_the_dangerous_fantasy_of_apolitical_money_20131226.

95. Salmon, *supra* note 5.

96. In a deflationary environment, everything from goods to services, in Bitcoin terms, would decrease in value. Salmon, *supra* note 5. In such an environment, no one spends his or

adopter and commentator on Bitcoin, has claimed that because Bitcoin cannot achieve monetary growth, it cannot sustain an economy and therefore cannot become a widely used currency.⁹⁷

Ultimately, however, what will truly define Bitcoin's future is a clarification of the legal and regulatory framework surrounding it. Legally categorizing Bitcoin will have substantial ramifications on the future use of digital crypto-currencies.

II. REGULATORY LANDSCAPE

A. *FinCEN Regulations*

On March 18 2013, the Financial Crimes Enforcement Network (FinCEN), a branch of the US Department of the Treasury, issued guidelines regarding the administration, exchange, and use of virtual currencies.⁹⁸ FinCEN's Virtual Currency Guidance clarifies the applicability of the existing Bank Secrecy Act (BSA), in particular regarding Money Services Businesses regulations,⁹⁹ to "persons

her money because there is near certainty that something will be cheaper tomorrow or the next week or next month as the value of the currency continues to rise. Salmon, *supra* note 5.

97. Salmon, *supra* note 5. Some have argued that Bitcoin should be unaffected by the problem of hyper-deflation because its users will be able to anticipate it. Doguet, *supra* note 57, at 1131. If people think the value is going to rise, then they will bid the price up immediately, which means there will never really be a significant period where people are simply hoarding their bitcoins in anticipation of a future price rise. See Timothy B. Lee, *Bitcoin Doesn't Have a Deflation Problem*, FORBES (Apr. 11, 2013), <http://www.forbes.com/sites/timothylee/2013/04/11/bitcoin-doesnt-have-a-deflation-problem/>. Furthermore, some have said Bitcoin will not lead to deflation unless countries' governments demanded that everyone switch over to Bitcoin in the next ten years. See Leigh Drogen, *Is Bitcoin a Commodity, Currency, or Technology?*, (Nov. 27, 2013), <http://www.leighdrogen.com/is-bitcoin-a-commodity-currency-or-technology/>. In that case, if Bitcoin does become widespread, then there will be no reason to hoard since everyone will be using it and there will only be marginal extra demand. *Id.*

98. See generally DEP'T OF THE TREASURY FIN. CRIMES ENFORCEMENT NETWORK, Guidance Paper FIN-2013-G001, APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES (2013), available at http://fincen.gov/statutes_regs/guidance/pdf/FIN-2013-G001.pdf [hereinafter FinCEN Guidance Paper]; see also Treas. Order 180-01 (Mar. 24, 2003) (giving FinCEN authority to administer the Bank Secrecy Act (BSA)).

99. The BSA subjects financial institutions and Money Services Businesses (MSBs) to a wide range of anti-money laundering obligations. See J. Dax Hansen et al., *New FinCEN Guidance Changes Regulatory Landscape or Virtual Currencies and Some Prepaid Programs*, PERKINS COIE (Mar. 22, 2013), http://www.perkinscoie.com/files/upload/03_22_2013_TTP_Update.PDF. MSBs falling under the BSA must establish strict anti-money laundering

creating, obtaining, distributing, exchanging, accepting or transmitting virtual currencies.”¹⁰⁰ The guidelines declare these entities to be subject to the rules governing money transmission.¹⁰¹ The guidelines did not, however, specify how the currency itself should be classified. Rather, they clarified the regulatory atmosphere for those specifically transacting in Bitcoin.

FinCEN’s guidance is cause for concern for some Bitcoin users because the guidelines subject Bitcoin exchangers and administrators (defined as those who put bitcoins into circulation as well as withdraw them from circulation)¹⁰² to the increased costs of compliance associated with money transmitting regulations. Exchangers are subject to both state and federal licensing requirements.¹⁰³ On the federal level, registration requires only filing an application.¹⁰⁴ On the state level, however, the process is infinitely more complex.¹⁰⁵ Moreover, because Bitcoin functions on the Internet and is accessible in every state, a Bitcoin exchanger must register with all those states requiring licensing in order to comply with the regulations, further adding to the cost of doing business.¹⁰⁶

programs; file currency transaction reports and suspicious activity reports; and implement know-your-customer (KYC) programs. *Id.* Most types of MSBs require registration with FinCEN. *Id.*

100. FinCEN Guidance Paper, *supra* note 98, at 1.

101. *Id.* The guidance, pursuant to the MSB regulations defines ‘money transmission services’ as “the acceptance of currency, funds, or other value that substitutes for currency from one person *and* the transmission of currency, funds, or other value that substitutes for currency to another location or person by any means.” *Id.* at 3. Money Transmitting businesses are regulated pursuant to the BSA as well as parts of the Patriot Act. *See* USA Patriot Act of 2001, 18 U.S.C. § 1960(a) (2006) (“Whoever knowingly conducts, controls, manages, supervises, directs, or owns all or part of an unlicensed money transmitting business, shall be fined in accordance with this title or imprisoned not more than five years, or both.”).

102. FinCEN Guidance Paper, *supra* note 98, at 1.

103. Marco Santori, *Bitcoin Law: Money Transmission on the State Level in the US*, COINDESK (Sept. 28, 2013), <http://www.coindesk.com/bitcoin-law-money-transmission-state-level-us/>.

104. *Id.*

105. *See id.* (noting excessive state licensing procedures).

106. *Id.*

B. Defining Bitcoin's Classification and Future: District Court Judge Concludes that "Bitcoin is Money"

In *SEC v. Shavers*, a Texas federal judge recently declared that Bitcoin is in fact money.¹⁰⁷ The question was introduced to a Texas federal district court in a case regarding a Bitcoin ponzi scheme run by an individual named Trendon Shavers.¹⁰⁸ The issue arose as the court questioned its jurisdiction in the case under the Securities Act of 1993 and the Securities Exchange Act of 1934.¹⁰⁹ Resolution of the jurisdictional question rested upon whether the Bitcoin investments constituted an investment of money.¹¹⁰

In order to have jurisdiction under the Securities and Exchange Acts, the court had to conclude that Bitcoin was in fact a security. The court defined a security as "any note, stock, treasury stock, security future, security-based swap, bond [or investment contract . . .]"¹¹¹ It specifically defined an investment contract as "any contract, transaction, or scheme involving three factors: (1) an investment of money; (2) in a common enterprise; and (3) with the expectation that profits will be derived from the efforts of the promoter or a third party."¹¹²

107. *SEC v. Shavers*, No. 4:13CV416, 2013 WL 4028182, at *2 (E.D. Tex. Aug. 6, 2013).

108. *Id.* at *1. Shavers is the founder and operator of Bitcoin Savings and Trust (BTCST). *Id.* The SEC alleges that he offered and sold Bitcoin-denominated investments through the Internet, and offered his investors up to 7 percent weekly interest based on BTCST's market arbitrage activity. *See id.* In reality, the investment opportunity was a Ponzi scheme in which Shavers used the Bitcoin provided by the new investors to make purported interest payments and cover investor withdrawals on outstanding BTCST investments. *Id.*

109. *Id.* at *1. These acts regulate the securities market. While the Securities Act of 1933 overlooks information given to the public with regards to public security offerings as well as prohibits fraud and misrepresentations in the market, the Securities Exchange Act of 1934 gives the SEC broad authority over all other areas of the securities market such as registration and regular reporting. *See The Laws that Govern the Securities Industry*, SEC, <http://www.sec.gov/about/laws.shtml> (last visited Aug. 25, 2014).

110. *Id.* at *2. Money is an intangible that serves three purposes: (1) it is a store of value; (2) it is a unit of account (common measure of value); and (3) it is a medium of exchange. *Functions of Money—The Economic Lowdown Podcast Series*, FED. RESERVE BANK OF ST. LOUIS (Feb. 21, 2012), http://www.stlouisfed.org/education_resources/economic-lowdown-podcast-series/functions-of-money/.

111. *Shavers*, 2013 WL 4028182, at *2 (citing 15 U.S.C. § 77b) (the statute refers to the definition of a security).

112. *Id.* (citing *SEC v. W.J. Howey & Co.*, 328 U.S. 293, 298–99 (1946) and *Long v. Shultz Cattle Co.*, 881 F.2d 129, 132 (1989)). This three-pronged test is referred to as the

The court concluded that Bitcoin “can be used as money” because goods and services can be purchased with bitcoins, it can be used to pay living expenses, and it can be exchanged for conventional currencies.¹¹³ The court recognized, however, that Bitcoin’s acceptance in only a handful of places limits its use as money, but determined that Bitcoin was nonetheless a “currency or form of money” because it can be exchanged for conventional currencies.¹¹⁴

After concluding that Bitcoin is an investment of money, the court analyzed the remaining elements of an investment contract, finding that Bitcoin investments “meet the definition of investment contract, and as such, are securities.”¹¹⁵ It determined that a common enterprise existed because the investors depended on Shavers’ expertise in the Bitcoin market, and he promised a substantial return on their investments as a result of his trading of bitcoins.¹¹⁶ Moreover, the court also found that the plaintiff met the third factor: expectation of profit. During the venture, Shavers promised interest between 1 percent to almost 4 percent, from which it is clear that the investors were expecting profits from Shavers’ efforts.¹¹⁷

Howey Test.

113. *Id.*

114. *Id.*

115. *Id.* The court in this decision only ruled on the jurisdictional question, concluding that it had jurisdiction to hear the case pursuant to the Securities Act of 1933 and the Securities Exchange Act of 1934. *Id.* The District Court later ruled on the actual scheme, stating that there was a violation of the acts because “Shavers knowingly and intentionally operated BTCST as a sham and a Ponzi scheme, repeatedly making misrepresentations to BTCST investors and potential investors concerning the use of their bitcoins; how he would generate the promised returns; and the safety of the investments.” SEC v. Shavers, No. 4:13CV416, 2014 WL 4652121 at *8 (E.D. Tex. Sept. 18, 2014). The former decision is important because it could help define certain circumstances under which the SEC could regulate Bitcoins. For example, purchasing Bitcoins as a speculative investment and intending to profit off of a future sale of those Bitcoins could classify the transaction as a security. See Todd P. Zerega & Thomas H. Watterson, *United States: Regulating Bitcoins: CFTC vs. SEC?*, MONDAQ (Jan. 2, 2014), <http://www.mondaq.com/unitedstates/x/283878/Commodities+Derivatives+Stock+Exchanges/Regulating+Bitcoins+CFTC+vs+SEC>.

116. *Shavers*, 2013 WL 4028182, at *2. To show a common enterprise, the Fifth Circuit has required interdependence between the investors and the promoter, demonstrated by the collective reliance on the promoter’s expertise. *Id.* (quoting Long v. Shultz Cattle Co., 881 F.2d 129, 141 (1989)). The test looks at whether the investor subjects his money to the risk of an enterprise over which he has no managerial control. John William Nelson, *Why Bitcoin Isn’t a Security Under Federal Securities Law*, LEX TECHNOLOGIAE, <http://www.lextechnologiae.com/2011/06/26/why-bitcoin-isnt-a-security-under-federal-securities-law/>.

117. *Shavers*, 2013 WL 4028182, at *2.

The *Shavers* decision shows one court's initiative in further delineating Bitcoin's regulatory landscape, but its ruling warrants a word of caution. The court's holding that bitcoins are money and that Shaver's scheme is an investment contract is somewhat limited.¹¹⁸ As Judge Mazzant acknowledged, bitcoins are not yet widely used as a medium of exchange.¹¹⁹ Perhaps bitcoins can be classified as money only in the particular circles that take them as payment and in circumstances such as Shavers' Ponzi scheme.

More importantly, it is not quite clear why bitcoins are a store of value. The economist, Paul Krugman argues that a reliable store of value is a currency that is either backed by a central authority, like the dollar, which is backed by the US Treasury, or has some form of intrinsic value, such as gold being made into jewelry.¹²⁰ Krugman has expressed skepticism that a currency that is neither backed by a central authority nor holds intrinsic value will retain its value over time.¹²¹ Bitcoin also does not make interest payments and no investment interest is denominated in Bitcoin at the moment, which also seems to suggest that its role as a store of value is somewhat limited.¹²²

Furthermore, there are those who have argued that Bitcoin should not be considered a currency. To be a currency, Bitcoin must be a store of value and a means of exchange.¹²³ Commodities historically backed most currencies (commodity-currency) but now state

118. One could argue that Bitcoin in and of itself does not satisfy the requisite elements for a security classification. See *infra* notes 133–38 and accompanying text.

119. *Shavers*, 2013 WL 4028182, at *2.

120. Paul Krugman, Op-Ed., *Bitcoin Is Evil*, N.Y. TIMES (Dec. 28, 2013), http://krugman.blogs.nytimes.com/2013/12/28/bitcoin-is-evil/?_r=0.

121. *Id.*; but see Adrienne Jeffries, *Why Don't Economists Like Bitcoin?*, THE VERGE (Dec. 31, 2013), <http://www.theverge.com/2013/12/31/5260534/krugman-bitcoin-evil-economists>

“If Bitcoin is successful, it could prove that money doesn't need to function as a stable store of value . . . Its success could also prove that use as a medium of exchange can be the basis for believing a currency is a store of value. If people believe that they will be able to buy things with Bitcoin and exchange it for other currencies indefinitely, that could convince them to use it as a store of value.”

122. Woo et al., *infra* note 214, at 8 (“From this point of view, as a store of value, its closest cousins are probably precious metals or cash . . . in our view.”).

123. John Authers, *Time to Take the Bitcoin Bubble Seriously*, FIN. TIMES (Dec. 11, 2013), <http://www.ft.com/cms/s/0/4ad1bba0-61fa-11e3-aa02-00144feabdc0.html#axzz2pZf9xP1n>.

governments almost exclusively back currencies (fiat currency).¹²⁴ The Supreme Court of the United States has recognized that currency is defined as “the coin and currency of the United States or of any other country, which circulate in and are customarily used and accepted as money in the country in which issued.”¹²⁵ Opponents of Bitcoin as a currency reason that it is not backed or issued by any government, unlike the US Dollar, which is backed by the US Treasury’s ‘full faith and credit’, and no one is legally required to accept Bitcoin.¹²⁶ Further, its value rests only on perception.¹²⁷

Despite possible shortcomings, the *Shavers* decision illuminates Bitcoin’s potential uses and possible classification schemes. More importantly, the decision is the first to have determined and clarified the nature of the use of Bitcoin in a Ponzi scheme scenario.¹²⁸ It is not unfathomable that based on this decision, broader and more sweeping regulatory declarations may occur in the future.¹²⁹

124. See Arthur J. Rolnick & Warren E. Weber, *Money, Inflation, and Output Under Fiat and Commodity Standards*, 105 J. POL. ECON. 1308, 1309 (1997), available at <http://www.jstor.org/stable/pdfplus/10.1086/516394.pdf?&acceptTC=true&jpdConfirm=true>

Under commodity standards, governments minted coins and issued paper currency that represented promises to specified amounts of specie. After the change in standards, governments issued fiat money: token coins and paper currency that carried no promise of either present or future convertibility into gold, silver, or anything else of intrinsic value.

125. *California Bankers Ass’n v. Shultz*, 416 U.S. 21, 39 n.14 (1974) (citing 31 CFR § 103.11 (reserved by 75 FR 65806-01))

126. Authers, *supra* note 123 (“Where does this leave us? Foreign exchange analysts agree, mostly off the record, that Bitcoin is not worthy of being treated as a real currency.”).

127. Authers, *supra* note 123; but see Jay Yarow, *Why Bitcoin Has Value, According to One of Its Biggest Supporters*, BUS. INSIDER (Jan. 2, 2014), <http://www.businessinsider.com/why-bitcoin-has-value-2014-1> (describing Bitcoin as having value because it gives users the ability to send payments, property and contracts anywhere in the world immediately and in a reliable manner).

128. Christopher B. Hopkins, *What is Bitcoin: Currency, Property... or Tulips?*, TECHNOLOGY CORNER (June 2014) 13, available at http://www.internetlawcommentary.com/articles/2014_bitcoin_tulip.pdf.

129. See Will Blackton, *Mining for Federal Regulation: What Does SEC v. Shavers Mean for the Future of Bitcoin?*, N.C. J.L. & TECH. (Oct. 15, 2013), <http://ncjolt.org/mining-for-federal-regulation-what-does-sec-v-shavers-mean-for-the-future-of-bitcoin/> (“The entire Bitcoin economy might not be disqualified from wholesale securities regulation because every participant is an investment promoter.”).

C. Bitcoin as a Security

Furthermore, although the *Shavers* decision indicates that in one particular instance, Bitcoin can be used as a type of security, the court failed to address whether Bitcoin itself could be a security. Although in the United States a security instrument is broadly defined,¹³⁰ Bitcoin in and of itself fails to clearly fall within this broad definition.¹³¹

If Bitcoin were classified as a security, it would likely be analyzed under the Howey Test detailed below.¹³² What makes classifying Bitcoins as a security complex, however, is that many of its characteristics point in either direction. For instance, the test's first prong, investment of money, is easily satisfied if one views it as a user purchasing bitcoins on an exchange.¹³³ On the flip side, bitcoins are also acquired through mining and therefore only require an investment of computer processing power rather than money.¹³⁴ If this is the case, Bitcoin would fail the first prong of the test. Furthermore, Bitcoin users do not gain profits from a single promoting entity because the system lacks a central authority,¹³⁵ however, users do enter the network with the common goal of continuing the block chain.¹³⁶ Moreover, whether there is a common expectation of profits also depends on whether Bitcoin is used as a payment mechanism or system of exchange, or rather, as a speculative vehicle.¹³⁷ The latter would satisfy the Howey Test, while the former would fail it. Finally, the last prong may actually be the most certain in indicating Bitcoins

130. See *supra* note 111, and accompanying text.

131. Vesna Harasic, *It's not Just about the Money: A Comparative Analysis of the Regulatory Status of Bitcoin under Various Domestic Securities Laws*, AM. U. BUS. L. REV. 487, 495 (2014).

132. See *supra* note 111 and accompanying text. As a reminder, the following are the prongs of the Howey Test: (1) an investment of money; (2) in a common enterprise; and (3) with the expectation that profits will be derived from the efforts of the promoter or a third party. *Id.*

133. Harasic, *supra* note 131.

134. Nelson, *supra* note 116.

135. *Id.*

136. Harasic, *supra* note 131. Furthermore, the network could classify as a horizontal commonality as the future of all Bitcoin users are tied together. Harasic, *supra* note 130. Nevertheless, there is arguably no vertical commonality as the development and expectation of profits is not tied a single promoter. *Id.*

137. *Id.*

non-classification as a security. That is, the Howey Test requires an expectation of profits derived from the efforts of another. Bitcoin's very framework prevents any one person from exercising managerial control over the entire system.¹³⁸

Consequently, Bitcoin's status as a security remains unclear, but will likely continue to be a source of potential regulation depending on Bitcoin's further development.

D. Bitcoin as a Commodity

So far, the US Commodity Futures Trading Commission (CFTC)¹³⁹ has not issued any ruling or guidance regarding Bitcoin as a commodity,¹⁴⁰ yet the regulatory entity is currently considering whether Bitcoin falls under its jurisdiction.¹⁴¹ At the moment, most Bitcoin transactions currently do not fall within the CFTC's purview.¹⁴² However, given Bitcoin's volatility, there is great interest

138. Nelson, *supra* note 116. Note, however, that Bitcoin users have begun to form mining pools that could lead to the creation of a controlling group. See Johnson, *infra* note 144. What is concerning about the creation of a controlling block of users is that they could create their own block chain. Joel Hruska, *One Bitcoin Group now Controls 51% of Total Mining Power, Threatening the Entire Currency's Safety*, EXTREME TECH (June, 2014), <http://www.extremetech.com/extreme/184427-one-bitcoin-group-now-controls-51-of-total-mining-power-threatening-entire-currency-safety>. This control happens when a mining pool creates what is known as an orphan block, which does not belong in the regular chain. *Id.* The network identifies it as an orphan block and throws it out by comparing it against the chain that has been worked on the most. *Id.* However, if a group can achieve 51% or more control, then it can create its own chain and throw more resources into that chain. *Id.* A mining pool controlling 51% or more of the network therefore has the ability to block or reject transactions or drive other pools out of business. *Id.* Consequently, if a portion of the Bitcoin network becomes controlled in this regard, it may well cause Bitcoin to satisfy the last prong of the Howey Test.

139. The CFTC is the entity in charge of overseeing and policing the derivatives markets to "protect market participants and the public from fraud, manipulation, abusive practices and systematic risk related to derivatives..." See *Mission and Responsibilities*, CFTC <http://www.cftc.gov/about/missionresponsibilities/index.htm> (last visited Sept. 6, 2014).

140. See Armand Tanzarian, *Legal Basics: Owning and Using Bitcoin in the United States*, COINTELEGRAPH (June 6, 2014), http://cointelegraph.com/news/111713/legal_basics_owning_and_using_bitcoin_in_the_united_states.

141. See Andrew Ackerman, *CFTC Studying Jurisdiction over Bitcoin*, MONEY BEAT (Mar. 11, 2014), <http://blogs.wsj.com/moneybeat/2014/03/11/cftc-studying-jurisdiction-over-bitcoin/>.

142. See *infra* note 144 and accompanying text. However, the commissioner of the CFTC, Timothy Massad, recently told a Senate Committee that the CFTC would oversee any Bitcoin related futures and swaps as the CFTC has authority to regulate futures and swaps in any commodity. He said, "While the CFTC does not have policies and procedures specific to virtual

in using various forms of financial instruments, particularly a variety of derivative contracts, such as swaps, as a way of hedging those risks.¹⁴³

In the United States a commodity is understood to be a “useful thing; an article of commerce; a moveable and tangible thing produced or used as the subject of barter or sale.”¹⁴⁴ In this sense, bitcoins are clearly commodities because they are useful articles of commerce that are capable of being possessed.¹⁴⁵ Bitcoins are traded online for goods and services, and even though every node on the Bitcoin network is knowledgeable of the bitcoins contained in each wallet, the individual user is the only one capable of distributing the coins within his or her particular wallet.¹⁴⁶

Furthermore, the CFTC, under the Commodities Exchange Act (CEA), classifies commodities in three different categories: (1) agricultural commodities, which, as the name indicates, include a number of agricultural products, such as wheat;¹⁴⁷ (2) excluded commodities, which refer to a number of financial interests including interest rates, currencies, price indices, etc.;¹⁴⁸ and (3) exempt commodities,¹⁴⁹ which encompasses everything not covered by the other two categories and includes metals, and energy.¹⁵⁰ Bitcoins

currencies like bitcoin, the agency’s authority extends to futures and swaps contracts in any commodity . . . derivative contracts based on a virtual currency represent one area within our responsibility.” Joon Ian Wong, *CFTC Chairman: We have Oversight of Bitcoin Derivatives*, COINDESK (Dec. 11, 2014), <http://www.coindesk.com/cftc-chairman-oversight-bitcoin-derivatives/>.

143. Houman B. Shadab, *Regulating Bitcoin and Block Chain Derivatives 2* (Oct. 9, 2014), available at http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/gmac_100914_bitcoin.pdf.

144. J. Thomas Johnson III, *What U.S. Regulations Apply to Bitcoin as Commodities?*, BITCOIN TITAN & TRADING TITAN (Feb. 17, 2012), <http://blog.bitcointitan.com/post/17789738826/what-u-s-regulations-apply-to-bitcoins-as-commodities> (citing *Ballentine’s Law Dictionary* and *State ex rel. Moose v Frank*, 169 S.W. 333 (Ark. 1914)).

145. *Id.* (noting that Bitcoins are tangible because they are constructively possessed, meaning one has control over a property without actual possession).

146. *Id.*

147. See 7 U.S.C. § 1a(9).

148. See CEA § 1a(19), 7 U.S.C. § 1a(19) (defining “excluded commodity” as including a variety of financial interests).

149. CEA § 1a(20); CFTC Glossary, Exempt Commodity

150. See *Exempt Commodity*, INVESTOPEDIA, http://www.investopedia.com/terms/e/exempt_commodity.asp (last visited Sept. 6, 2014). Note that there is a different regulatory regime in the case of foreign exchange. See Latham & Watkins, *Regulation of Foreign Currency*

certainly fall under one of these three classifications and are consequently commodities under the CEA; however, which category they belong to (excluded commodities—as bitcoins can be viewed as a currency, or exempt commodities—as bitcoins may meet the definition of a metal and anything that does not fall under the first two categories, may fall under this category) is debatable.¹⁵¹

The CFTC has “exclusive jurisdiction [over those] transaction[s] commonly known to the trade as, an ‘option,’ . . . ‘bid,’ ‘offer,’ ‘put,’ ‘call,’ and transactions involving swaps or contracts of sale of a commodity for future delivery.”¹⁵² Despite this definition, the CFTC has specified that the term “future delivery” does not include commodities futures contracts.¹⁵³ This exclusion refers specifically to forward contracts.¹⁵⁴ That is, the CFTC does not regulate forward contracts,¹⁵⁵ but rather, regulates speculative investments, including futures contracts¹⁵⁶ and options.¹⁵⁷ Moreover, under the CEA,

Transactions: The Interaction of the Treasury Determination, Swaps Regulation and the Retail Foreign Exchange Rules, CLIENT ALERT NUM. 1468 2 (Feb. 13, 2013), available at file:///Users/danisonderegger/Downloads/us-treasury-regulation-foreign-currency-transactions.pdf. (noting that foreign exchange (FX) swaps and FX Forwards are exempted from the CEA’s definition of a swap, however, FX options may still fall under the CEA’s definition of a swap).

151. See Brito et al., *supra* note 76, at 18 (discussing why Bitcoin can fall under any one of the three classifications and is therefore a commodity as defined by the CEA).

152. Commodity Futures Trading Commission Act of 1974, 7 U.S.C. § 2(a)(1)(A) (2012).

153. See Commodity Exchange Act, 7 U.S.C. § 1a(27) (2012) (“The term ‘future delivery’ does *not* include any sale of any cash commodity for deferred shipment or delivery”) (emphasis added). It is worth noting that the difference between a future contract and forward contract is primarily how the transaction is conducted.

154. A forward contract is one in which the “parties agree to trade an asset at a later date at a price specified in the present.” See Brito et al., *supra* note 76, at 19 (citations omitted). Forward contracts are particularly tailored to the specific risks involved in the negotiated transactions and are not traded on centralized exchanges. Brito et al., *supra* note 76, at 19.

155. Forward contracts are not regulated by the CFTC because the CFTC oversees speculative markets, rather than those in which the commodity actually has some “inherent value” to the parties. Brito et al., *supra* note 76, at 19. That is, in a Forwards contract, the parties traditionally transfer ownership of the commodity, rather than simply transferring the commodity’s price risk. Brito et al., *supra* note 76, at 20.

156. A futures contract is defined by the CFTC as “an agreement to purchase or sell a commodity for delivery in the future: (1) at a price that is determined at initiation of the contract; (2) that obligates each party to the contract to fulfill the contract at the specified price; (3) that is used to assume or shift price risk; and (4) that may be satisfied by delivery or offset.” Futures Contract, *CFTC Glossary*, CFTC, <http://www.cftc.gov/ConsumerProtection/EducationCenter/CFTCGlossary/index.htm#F> (last visited Sept. 6, 2014). A party selling Bitcoin would use a futures contract in Bitcoin to protect themselves from Bitcoin’s price volatility by taking a “short” position (meaning they believe Bitcoin price will go down with respect to the dollar)

“options on commodities fall within the definition of a ‘swap,’¹⁵⁸ and are consequently usually regulated as such.¹⁵⁹ The key is to determine whether Bitcoin transactions are either forward contracts or option contracts subject to the CFTC’s jurisdiction.¹⁶⁰

The first step in deciding whether a contract is a forward contract or an option hinges on whether the parties had a general expectation of delivery of the underlying commodity.¹⁶¹ In most Bitcoin transactions, the buyer intends to accept delivery of the bitcoins sold.

and agreeing to sell Bitcoin at that particular price. *See* Brito et al., *supra* note 76, at 15. The distinction between futures and forwards is not statutorily defined, but rather hinges on a totality of the circumstances test. The test differentiates the two on the following grounds: “forwards are non-standardized, do not trade on an exchange, and . . . are intended by the parties to physically deliver the commodity as opposed to a cash settlement of the market versus contract price difference.” Brito et al., *supra* note 76, at 20 (citing Forward contract, CFTC Glossary, U.S. Commodity Futures Trading Commission Education Center, accessed March 27, 2014, <http://www.cftc.gov/consumerprotection/educationcenter/cftcglossary/>); *See also* *In re National Gas Distributors*, 556 F.3d 247 (9th Cir 2009); *CFTC v. Hanover Trading Corp.*, 34 F. Supp. 2d 203 (S.D.N.Y. 1999) (contracts where no delivery was contemplated were futures)).

157. *See* Johnson, *supra* note 143 (“Forward contracts (a subset of futures contracts) are transferable contractual agreements to buy or sell a fixed amount of a certain commodity on a specified date; options contracts are the right to buy or sell a specified amount of a commodity within a certain period of time at a given price (called the strike price).”) (citation omitted). There are two kinds of options: a call option, which has value only if the purchase price is below the market price, and a put option, which works in the opposite way of a call option. Brito et al., *supra* note 76, at 26. In terms of Bitcoin, if a purchaser buys a call option it would allow the seller selling in Bitcoin price denominations to be protected in the event of an increase in price. Brito et al., *supra* note 76, at 26. On the other hand, a put option would protect in the event of a price decline because it allows the option holder to sell at the pre-specified price. Brito et al., *supra* note 76, at 26.

158. A swap is defined as an agreement “in which each counterparty agrees to an exchange of payments related to the value or return of some underlying asset or event.” *See* Shadab, *supra* note 143, at 8.

159. *See* Shadab, *supra* note 143, at 8. The CFTC has jurisdiction over most types of swaps, including fx swaps, interest rate swaps and other commodity swaps, which differ from the exclusive jurisdiction the SEC has on some swaps, namely, swaps based on securities and other some narrow-based indices. *Id.* A Bitcoin swap would likely be in the form of an FX swap, which entails two parties borrowing a foreign currency from each other and agreeing to pay each other back at a specified price or may entail the parties agreeing to a cash-settlement rather than an actual exchange of the currencies. *Id.* Such a swap would be used to hedge against the risk of a price decrease relative to the dollar, for instance. *Id.*

160. Brito et al., *supra* note 76, at 26.

161. *Id.* (citing *In re Stovall*, [1977-1980 Transfer Binder] Comm. Fut. L. Rep. (CCH) (CFTC Dec. 6, 1979)). The other two factors courts have looked at include: (1) directed operation to the general public; and, (2) standardized contracts, which resemble futures contracts. *Id.*

Currently, there are a few websites that sell Bitcoin forward contracts; yet, they do not have any of the characteristics of an options contract.¹⁶² In order for the CFTC to have jurisdiction over the transaction, there must be trade in the contract, and the seller accepts a cash settlement over physical delivery.¹⁶³ Currently, these Bitcoin transactions are physically settled, meaning the buyer must receive the bitcoins bargained for, and the price of the contract is the price of the bitcoins and not a premium for the option to buy bitcoins at some later time. Additionally, profit is realized when bitcoins are received and exchanged, not when the rate increases beyond the strike price and the paid premium.¹⁶⁴ Consequently, most Bitcoin transactions do not currently fall under the CFTC's purview.¹⁶⁵

It is possible, however, that Bitcoin future contracts sold by large mining pools, where individual miners pool their computational strength together to mine for bitcoins, may become standardized. These contracts, where the sellers are primarily miners or mining pools, are not likely to fall under the CFTC's regulatory authority for the reasons previously mentioned¹⁶⁶ However, if a market emerges where buyers may resell the contracts, or use swaps as a means of hedging foreign exchange risks, those transactions will certainly fall under the CFTC's jurisdiction because, in such an event, the buyer will not take delivery of the commodity.¹⁶⁷ So long as buyers take delivery of the commodity and do not become sellers, then the main prong distinguishing a forward contract from an option contract is

162. Johnson, *supra* note 144.

163. *Id.*

164. *Id.*

165. *Id.*

166. *Id.*

167. *Id.* OkCoin in China is the first exchange to launch a futures trading. See Jon Southurst, *China Exchange OkCoin to Launch Bitcoin Futures Trading*, COINDESK (Aug. 5, 2014), <http://www.coindesk.com/okcoins-bitcoin-futures-trading-aims-combat-price-volatility-risk/>. At the moment, the exchange is seeking business with other countries, including the US *Id.* If such type of futures trading begins to occur in the US, particularly Bitcoin swaps, the CFTC will most likely have authority to regulate these transactions, as they no longer involve actual delivery of the bitcoins, but will now involve speculation of the cryptocurrency's performance without physical delivery of the bitcoins. See *supra* notes 157–63 and accompanying text.

satisfied, rendering these transactions outside of the CFTC's regulatory purview.¹⁶⁸

E. Other State and Federal Regulations

At the moment, other federal regulatory entities as well as state governments are analyzing how to regulate Bitcoin. For its part, Janet Yellen, the chair of the Federal Reserve, has said that the Federal Reserve does not have the ability to supervise or regulate Bitcoin given that there is no intersection between Bitcoin and banks.¹⁶⁹ On the other hand, earlier this year, the Internal Revenue Service (IRS) issued a notice about the treatment of Bitcoin for tax purposes.¹⁷⁰ The IRS said that it will treat payments made with bitcoins, Bitcoin investments, and income derived from mining, as property, and they will be taxed accordingly.¹⁷¹ The Federal Election Commission has also considered regulating Bitcoin in the realm of campaign contributions.¹⁷² Finally, New York recently issued proposed regulations for a “BitLicense” plan which would be applied to companies that store, maintain, or secure virtual currencies on behalf of customers, and which would be intended to create a comprehensive framework to ensure consumer protection, particularly with respect to money laundering and cybersecurity.¹⁷³

168. See *supra* notes 157–61 and accompanying text.

169. Vivian A. Maese, *Divining the Regulatory Future of Illegitimate Cryptocurrencies*, 18 NO. 5 WALLSTREETLAWYER.COM: SEC. ELEC. AGE 7 (2014).

170. See Keith A. Aqai, IRS Notice 2014-21 2 (2014), available at <http://www.irs.gov/pub/irs-drop/n-14-21.pdf> (noting that Bitcoin shall be treated as property for tax purposes, and will not be treated as a currency).

171. See Jose Pagliery, *IRS says Bitcoin is Taxable*, CNN MONEY (Mar. 25, 2014), <http://money.cnn.com/2014/03/25/technology/innovation/irs-bitcoin/index.html>.

172. See Brito et al., *supra* note 76, at 11 (citing Benjamin Goad, FEC: No bitcoins in federal campaigns, THE HILL (Nov. 21, 2013), <http://thehill.com/blogs/regwatch/technology/191096-fec-no-bitcoins-in-federal-campaigns>).

173. See Sydney Ember, *New York Proposes First State Regulations for Bitcoin*, N.Y. TIMES (July 17, 2014), http://dealbook.nytimes.com/2014/07/17/lawsy-proposes-first-state-regulations-for-bitcoin/?_php=true&_type=blogs&_r=0; See generally Title 23. Department of Financial Services. Chapter 1. Regs. Of Superintendent of Financial Services Part 200. Virtual Currencies, available at <http://www.dfs.ny.gov/about/press2014/pr1407171-vc.pdf>.

F. Regulatory Reactions to Bitcoin in Other Countries

Bitcoin has been received with mixed enthusiasm by governments around the world. Some have welcomed Bitcoin with open arms. For example, Belgium's government has not specifically regulated Bitcoin, and its Minister of Finance has indicated that at the moment regulation seems unnecessary.¹⁷⁴ Further, the United Kingdom's Financial Conduct Authority has told Coinfloor, a Bitcoin exchanger, that it has no plans to regulate Bitcoin exchanges.¹⁷⁵ Germany declared Bitcoin to be private money, meaning it could be used for tax and trading purposes in the country.¹⁷⁶ Finland has said Bitcoin is a commodity and not a currency. However, Finns can use the commodity as a means of exchange and to make payments.¹⁷⁷ Similarly, the Japanese government has stated that Bitcoin is a commodity, but disallowed financial institutions and banks from handling Bitcoin trades.¹⁷⁸ On a similar note, The People's Bank of China has essentially disallowed financial institutions from handling

174. See *Regulation of Bitcoin in Selected Jurisdictions*, Library of Congress, <http://www.loc.gov/law/help/bitcoin-survey/> (last visited Nov. 4, 2014).

175. Jerry Brito, *U.S. Regulations Are Hampering Bitcoin's Growth*, THE GUARDIAN (Nov. 18, 2013), <http://www.theguardian.com/commentisfree/2013/nov/18/bitcoin-senate-hearings-regulation>.

176. Matt Clinch, *Bitcoin Recognized by Germany as 'Private Money'*, CNBC (Aug. 19, 2013), <http://www.cnn.com/id/100971898>.

177. See *People's Bank of China and Other Five Ministries Issued "On Guard Against the Risk of Bitcoin Notice"* (Translated version of Official Statement) (Dec. 5, 2013), <http://www.pbc.gov.cn/publish/goutongjiaoliu/524/2013/20131205153156832222251/20131205153156832222251.html> [hereinafter Official Statement]; Kati Pohjanpalo, *Bitcoin Judged Commodity in Finland After Failing Money Test*, BLOOMBERG (Jan. 20, 2014), <http://www.bloomberg.com/news/2014-01-19/bitcoin-becomes-commodity-in-finland-after-failing-currency-test.html>; Cameron Fuller, *Bitcoin vs. Bank of Finland: Cryptocurrencies Ruled as Commodities After Failing Money Test*, INT'L BUS. TIMES (Jan. 21, 2014), <http://www.ibtimes.com/bitcoin-vs-bank-finland-cryptocurrencies-ruled-commodities-after-failing-money-test-1545072>

While Finland has declared it a commodity, Finns can still use it to pay for goods and services. Additionally, any income generated via capital gains is taxed, though losses are not deductible, and bitcoin mining gains are taxable as income. Ultimately, the Finnish bank's position marks any investment into the currency as a risk that citizens take on their own.

178. *Japan to Regulate Bitcoin Trades, Impose Taxes*, NIKKEI ASIAN REV. (Mar. 5, 2014), <http://asia.nikkei.com/Politics-Economy/Policy-Politics/Japan-to-regulate-Bitcoin-trades-impose-taxes>.

Bitcoin transactions.¹⁷⁹ China's treatment of Bitcoin is particularly important because China has rapidly become one of Bitcoin's biggest markets.¹⁸⁰

In December 2013, the Chinese government issued a statement regarding Bitcoin. It found: (1) Bitcoin is not a currency, but rather will be treated as a virtual asset/digital commodity; (2) financial institutions and payment companies may not engage in Bitcoin related businesses; (3) buying and selling of online commodities is allowed and people are free to do so (i.e., exchanges are legal), but goods and services cannot be priced and paid for in bitcoins; (4) the government will exercise increased oversight of Bitcoin-related websites and it will act to prevent money laundering risks associated with Bitcoin; and (5) the public must assume Bitcoin's risk since it is a speculative asset.¹⁸¹ The Chinese government's policy implements "broad restrictions from a very macro-level, not blindly try to regulate a market in its infancy."¹⁸²

G. Implications of Current Regulatory Framework

Although the Bitcoin market is still small,¹⁸³ it is clear that there is little consensus as to how to regulate Bitcoin. In the United States, regulation has focused on money laundering and money

179. Rebecca Brace, *China Leads Fresh Regulatory Response to Bitcoin Bubble*, EUROMONEY (Dec. 20, 2013), <http://www.euromoney.com/Article/3291898/China-leads-fresh-regulatory-response-to-Bitcoin-bubble.html>.

180. See Vitalik Buterin, *Baidu Jiasule and the Chinese Bitcoin Community*, BITCOIN MAG. (OCT. 16, 2013), <http://bitcoinmagazine.com/7492/baidu-jiasule-and-the-chinese-bitcoin-community/> (stating economic and cultural reasons why Bitcoin has become so popular in China); *Coinsider This! Show 12—Bitcoin in China*, COINSIDER THIS! (Dec. 12, 2013), <http://www.coinsiderthis.com/2013/12/12/coinsider-this-show-12-bitcoin-in-china/> <http://www.coinsiderthis.com/tag/regulation/> (noting that over 50% of worldwide Bitcoin trading is denominated in RMB, the Chinese currency).

181. See *Official Statement*, *supra* note 177.

182. Jack Wang, *China's Statement on Bitcoin Is Open to Interpretation*, COINDESK (Dec. 16, 2013), <http://www.coindesk.com/bitcoin-china-statement-interpretation/> (quoting S, owner of Yibite, a Bitcoin media operated by some of the top miners and holders in China).

183. The value of available Bitcoins currently totals approximately \$12 billion. Peter J. Henning, *For Bitcoin, Square Peg Meets Round Hole Under the Law*, N.Y. TIMES (Dec. 9, 2013), <http://dealbook.nytimes.com/2013/12/09/for-bitcoin-square-peg-meets-round-hole-under-the-law/>.

transmission,¹⁸⁴ and less so on consumer protections¹⁸⁵ and the Bitcoin system's actual classification. If Bitcoin continues to grow, clearer regulatory guidelines may be necessary, particularly with regard to its classification as a currency, a commodity, or some other kind of asset.

III. ANALYSIS

Based on Bitcoin's uncertain nature, governments could develop a host of regulations. Nevertheless, it would be unwise for them to implement strict regulations at this time. Rather, the US government should emulate some elements of the Chinese policy, with one major distinction; goods and services should be priced in Bitcoins, and users shall be permitted to use Bitcoin as a payment mechanism. As such, this note advocates for the United States to adopt a mixed policy incorporating elements of both the Chinese and Finish/models with respect to Bitcoin. Such a combined model would allow Bitcoin to mostly self-regulate within a vague framework that both legally defines Bitcoin while ultimately allowing it the regulatory freedom it requires to fully develop.

Bitcoin is ultimately a self-regulated system based on a mathematical peer-to-peer network that exists on the Internet, and it can continue to fully develop only if permitted this regulatory freedom. Nonetheless, Bitcoin will never reach its full potential if lawful businesses fail to see it as legitimate.¹⁸⁶ The US government

184. See *supra* discussion Part II.A and accompanying text.

185. See *The Present and Future Impact of Virtual Currency: Hearing Before the Subcomm. on Nat'l Sec. & Int'l Trade & Fin. & the Subcomm. on Econ. Policy of the S. Comm. on Banking*, 113th Cong. 6 (2013) (statement of Mercedes Tunstall, Partner, Ballar Spahr), available at http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=e6d78e44-fb96-4cd0-b17d-40d89e50f8aa

Currently, consumer protections contained in financial regulations such as the Electronic Funds Transfer Act and its implementing regulation, Regulation E, do not apply to virtual currencies. Therefore, unauthorized transactions involving virtual currency have no recourse—once the currency is gone, it is gone, just as surely as when someone swipes bills from a wallet.

186. See Marc Ferranti, *Bitcoin Regulation Urged by Law Enforcement Officials at New York Hearing*, PCWORLD (Jan. 29, 2014), <http://www.pcworld.com/article/2092780/bitcoin-regulation-urged-by-law-enforcement-officials-at-new-york-hearing.html> (despite some legitimate uses of Bitcoin, challenges faced, particularly in regards to its criminal underpinnings, result in

should take a hands-off approach to Bitcoin, while keeping a close eye on the criminal activity, regulating and prosecuting only when absolutely necessary.¹⁸⁷ Self-regulation within this vaguely defined legal framework is the preferred path because: (1) Bitcoin is already a self-regulated system; (2) harsh regulation could send Bitcoin overseas, leaving the United States out of the regulatory discussion; and (3) Bitcoin may come crashing down in an instant. Such a modified self-regulating framework will allow the government to monitor Bitcoin developments, while giving the market the confidence it needs to allow Bitcoin to follow its true course.

A. *Bitcoin is Inherently Self-Regulating*

Bitcoin was conceived as system that is distrustful of central authority. More than a medium of exchange or a possible currency, Bitcoin is an open source protocol that can be molded and built upon by its users, thereby exhibiting self-regulating qualities.¹⁸⁸ Bitcoin users must consent to system changes, as the system is regulated in a formulaic and mathematical fashion.¹⁸⁹ These particular qualities, based on network acceptance and adoption of change, make Bitcoin an inherently self-regulated system.

Because the system is flexible and based on community adoption, it is unlikely that a government will be successful in implementing regulation. Bitcoin thrives on its strong network effects, meaning the currency with the largest user base is the most useful one and

significant interest by legitimate businesses in the outcome of discussions over Bitcoin's regulation).

187. As Felix Salmon said, "for the time being, bitcoin is in many ways the best and cleanest payments mechanism the world has ever seen. So if we're ever going to create something better, we're going to have to learn from what bitcoin does right—as well as what it does wrong." Salmon, *supra* note 5.

188. See, e.g., David Wolman, *Bitcoin's Radical Days are Over. Here's How to Take It Mainstream*, WIRED (Oct. 30, 2013), <http://www.wired.com/wiredenterprise/2013/10/bitcoin/> (highlighting the importance of Bitcoin's open source and malleability as support for its potential for mainstream adoption).

189. David Perry, *Democratic Currency: Why Bitcoin Is So Hard to Regulate*, CODING IN MY SLEEP (Nov. 20, 2013), <http://codinginmysleep.com/democratic-currencywhy-bitcoin-hard-regulate/>. Proposals implemented in the software must be taken up by 80% of the nodes before they become permanent. *Bitcoin Under Pressure*, ECONOMIST (Nov. 30, 2013), <http://www.economist.com/news/technology-quarterly/21590766-virtual-currency-it-mathematically-elegant-increasingly-popular-and-highly>.

therefore it entrenches its position as the most popular.¹⁹⁰ This means more processing power is dedicated to the system, thereby increasing security and making it difficult for regulators to intervene with the process.¹⁹¹ Even if the US government could implement regulation, the simple fact that Bitcoin exists on the Internet means that the rest of the world can ignore US imposed regulation, cutting the United States off of the Bitcoin economy.¹⁹²

B. Consequences of the Current Regulatory Environment in the United States

If Bitcoin is self-regulated, there are valid concerns regarding the criminal activity underlying many Bitcoin transactions. To ameliorate these concerns, the Bitcoin community¹⁹³ has attempted to find code-based solutions to the problem.¹⁹⁴ Currently, however, the Bitcoin

190. Timothy B. Lee, *Everything You Need to Know About the Bitcoin 'Bubble'*, WASH. POST (Nov. 8, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/08/everything-you-need-to-know-about-the-bitcoin-bubble/> [http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/08/everything-you-need-to-know-about-the-bitcoin-bubble/](http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/08/everything-you-need-to-know-about-the-bitcoin-bubble/http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/08/everything-you-need-to-know-about-the-bitcoin-bubble/).

191. Jerry Brito, *Bitcoin Is Going Mainstream. Here Is Why Cypherpunks Shouldn't Worry*, TECH. LIBERATION FRONT (Oct. 31, 2013), <http://techliberation.com/2013/10/31/bitcoin-is-going-mainstream-here-is-why-cypherpunks-shouldnt-worry/>.

192. Perry, *supra* note 189.

193. See Chris Moody, *Meet the People Trying to Make Bitcoin Happen in Washington*, YAHOO NEWS (June 2, 2014), <http://news.yahoo.com/bitcoin-lobbyists-212631321.html> (mentioning a number of players that form part of the Bitcoin community, including, the Bitcoin Foundation, the Mercatus Center, the Digital Asset Transfer Authority, etc.). Besides these foundations, the Bitcoin community is made up of a number of entrepreneurs, like the Winklevoss twins, as well as a number of startups and other online/e-commerce businesses. See William Channer, *Winklevoss Twins: Why Bitcoin will be Bigger than Facebook*, THE GUARDIAN (May 19, 2014) (describing the Winklevoss twins' investment and interest in Bitcoin); See also Ian Kar, *What Companies Accept Bitcoin?* (Feb. 4, 2014), <http://www.nasdaq.com/article/what-companies-accept-bitcoin-cm323438> (listing a number of companies that accept bitcoins as payment).

194. For example, "Autonomous agents are software programs able to scan large amounts of financial transactions for irregularities; potentially, they can even halt a transaction from being processed." Doguet, *supra* note 57, at 1145. Another proposed code based solution is to blacklist stolen coins in order to prevent them from re-entering the money supply. Jonathan Levin, *Governments Will Struggle to Put Bitcoin Under Lock and Key*, CONVERSATION (Nov. 27, 2013, 2:35 PM), <http://theconversation.com/governments-will-struggle-to-put-bitcoin-under-lock-and-key-20731>. Blacklisting is feasible because every Bitcoin transaction is publicly announced on the block-chain so the network could find a way of agreeing whether the coins

system is unable to prevent small-scale criminal activity from taking place, as evidenced by numerous hackings of bitcoin wallets, large-scale sale of drugs, as well as other illegal activity.¹⁹⁵

Nevertheless, Bitcoin's strength lies in the system's ability to adapt and become increasingly secure with time.¹⁹⁶ Assuming that more and more users on the network routinely use Bitcoin for legitimate purposes, it is fathomable (based on the network effects just described) that the system will become stronger and code based changes addressing these criminal concerns will be widely accepted.

Although Bitcoin may evolve into a stronger, more protected system in the future, criminal activity is nonetheless taking place now. This makes a strong argument against self-regulation. What is more, Jerry Brito, a senior research fellow at the Mercatus Center at George Mason University, has noted that due to the way bitcoins are created, "there is no Bitcoin company to raid, subpoena or shut down."¹⁹⁷

Yet, evidence seems to suggest that this threat is overstated.¹⁹⁸ As previously discussed, Bitcoin transactions are not completely

were actually stolen. *Id.* Note, however, that this proposal is problematic because it could result in taking a large number of coins out of the system, and burdening individual merchants with checking coins against a blacklist, which is something that is not even done with fiat currency. Danny Bradbury, *Anti-Theft Bitcoin Tracking Proposals Divide Bitcoin Community*, COINDESK (Nov. 15, 2013), <http://www.coindesk.com/bitcoin-tracking-proposal-divides-bitcoin-community/>. Yet another proposal aiming at regulating Bitcoin's software weaknesses suggests that Bitcoin be regulated by something similar to the SEC Regulation Systems Compliance and Integrity (SCI) system, which is aimed at controlling software 'glitches' in the securities system together with a self-regulatory entity that is to oversee Bitcoin activity. Maese, *supra* note 169

195. Two of the biggest online black markets for the sale of illicit goods, Silk Road and Sheep Marketplace, transacted almost exclusively in Bitcoin. *See Bitcoin—Reward Comes with Risk—Part Four*, DORSEY (Dec. 20, 2013), http://www.dorsey.com/eu_cm_bitcoin_virtual_currency_pt4/. Moreover, in mid-2011, a large Japanese based Bitcoin exchanger was the victim of a large cyber attack that knocked the value of the currency down from \$17.50 to \$0.01. *Id.* Other attacks include the theft of almost \$1 million worth of Bitcoins from Inputs.io, a website owned by Bitcoin payment processor TradeFortress, and the overnight disappearance of Global Bond Limited, a Hong Kong-registered Bitcoin trading platform, that absconded with \$4.1 million in investor assets. *Id.*

196. 'Without Third Party, Bitcoin Is Safer than Fed Notes', RT (Nov. 9, 2013), <http://rt.com/op-edge/bitcoin-theft-strong-currency-465/>.

197. Peter Twomey, *Halting a Shift in the Paradigm: The Need for Bitcoin Regulation*, 16 TRINITY C.L. REV. 67, 75 (2013) (internal citations omitted). Note, however, that the likelihood is that the users themselves, rather than a Bitcoin entity, are the malfeasors.

198. A recent study suggests that it is pretty hard to use Bitcoins to launder money on a large scale. *See* Sarah Meiklejohn et al., *A Fistful of Bitcoins: Characterizing Payments Among*

anonymous because they exist on a public ledger. Furthermore, law enforcement personnel have the tools to trace these transactions and capture the wrongdoing party.¹⁹⁹

Even if Bitcoin may not be the tool of choice for many criminals, crime through Bitcoin has undeniably occurred.²⁰⁰ Exchangers have been targeted as a means of regulating this criminal activity.²⁰¹ Exchangers, unlike other aspects surrounding Bitcoin transactions, are real business entities, incorporated in the United States, where digital currency is exchanged for fiat currency.²⁰² The United States has proven it has the power to control and regulate this aspect of the Bitcoin industry,²⁰³ yet it should continue to do so cautiously, implementing only that regulation necessary to protect consumers and further help delineate the regulatory framework. Furthermore, lawmakers have expressed that the US Department of Justice has the tools to prosecute criminal Bitcoin transactions under the current regulatory framework.²⁰⁴

Men with No Names, PROC. OF THE CONF. ON INTERNET MEASUREMENT 127, 128 (2013), available at <http://cseweb.ucsd.edu/~smeiklejohn/files/imc13.pdf> (“[T]he increasing dominance of a small number of Bitcoin institutions (most notably services that perform currency exchange), coupled with the public nature of transactions and our ability to label monetary flows to major institutions, ultimately makes Bitcoin unattractive today for high-volume illicit use such as money laundering.”).

199. See e.g., Elaine Silvestrini, *Law Enforcement Cracking Bitcoin Black Markets*, TAMPA TRIB. (Feb. 2, 2014) (noting numerous cases in Florida involving Bitcoin conspiracies and criminal activity, and law enforcement’s ability to trace transactions); see also ELWELL ET AL., *supra* note 53, at 3 (stating that law enforcement officials have powerful software tools to track Bitcoin activity).

200. See *Reward Comes with Risk—Part Four*, *supra* note 195 (describing hackings of Bitcoin wallets and other Bitcoin criminal activities).

201. Twomey, *supra* note 197, at 76.

202. *Id.*

203. See also FBI INTELLIGENCE ASSESSMENT, *supra* note 20, at 2 (“[T]he FBI assesses with medium confidence that law enforcement can identify, or discover more information about malicious actors if the actors convert their bitcoins into a *fiat currency*.”).

204. Mythili Raman, Acting Assistant Attorney General for the Criminal Division of the US Department of Justice, said the criminal statutes on the books seem to be sufficient to prosecute the man recently arrested for running Silk Road and that the Department has been successful using existing money laundering statutes to prosecute other digital currency money laundering cases, such as EGold and Liberty Reserve. Joshua Brustein, *Currency Cops Want Congress to Steer Clear of Bitcoin, Thanks*, BLOOMBERG BUSINESSWEEK (Nov. 19, 2013), <http://www.businessweek.com/articles/2013-11-19/currency-cops-want-congress-to-steer-clear-of-bitcoin-thanks>.

Exclusively regulating Bitcoin exchangers strikes a sufficient balance between the need to protect Bitcoin users from criminal activity and ensuring the freedom Bitcoin requires to properly grow and develop. Nevertheless, some Bitcoin exchangers have responded to regulation by blocking US users from their system.²⁰⁵ If the United States is not careful in the way it regulates and prosecutes Bitcoin criminal activity, it may be shut out of the Bitcoin regulatory discussion.²⁰⁶ Regulation that is too strong will only send Bitcoin users overseas, further removing it from the reach of US regulation.²⁰⁷ Given these risks and Bitcoin's ability to adapt, the United States should interfere only when absolutely necessary to safeguard the public's interests.

C. Bitcoin's Possible Failure

Bitcoin should also be permitted to self-regulate because of the threat that the system may collapse in the near future. There are a number of potential failures that could occur in the foreseeable future. First, Bitcoin has no guaranteed demand.²⁰⁸ Second, Bitcoin

205. For example, BitFunder, a Bitcoin stock exchange, banned people in the United States from using the site on October 8, 2013, as a means of better avoiding US long arm statutes. Kadhim Shubber, *Bitcoin Stock Exchange BitFunder Announces Closure*, COINDESK (Nov. 12, 2013), <http://www.coindesk.com/bitcoin-stock-exchange-bitfunder-announces-closure/>.

206. Up until recently, the United States had been central to Bitcoin's growth. Brito, *supra* note 175. In fact, Bitcoin's lead developer, Gavin Andresen, is an American and is employed by the Bitcoin Foundation, which is based in the United States. *Id.* Moreover, some of the most innovative Bitcoin startups are also based in the United States. (*e.g.*, Bitpay and Coinbase). *Id.* But, the US regulatory approach (regulate first and ask questions later) has stymied some of this growth, as new startups or exchangers prefer opening in areas with more lax regulations. *Id.* For example, Coinfloor, a new exchanger, recently opened in London and the Bitcoin Foundation is reportedly considering moving its headquarters overseas. *Id.*

207. FinCEN's most recent actions on January 6, 2014, seem to further alienate Bitcoin businesses from the United States. FinCEN mailed roughly a dozen letters to businesses linked to Bitcoin, warning that they may fall within the definition of money transmitters and may be required to comply with federal law and regulations. Brett Wolf, *U.S. Treasury Cautions Bitcoin Businesses of Compliance Duties, Advocate Cites 'Chilling Effect'*, REUTERS (Jan. 6, 2014), <http://blogs.reuters.com/financial-regulatory-forum/2014/01/06/u-s-treasury-cautions-bitcoin-businesses-on-compliance-duties-advocate-cites-chilling-effect/>. The letters, with their threat of civil and criminal sanctions for non-compliance have had a chilling effect on businesses. *Id.*

208. See Joshua Gans, *Time For a Little Bitcoin Discussion*, ECONOMIST'S VIEW (Dec. 25, 2013), http://www.relooney.info/000_New_265.pdf (stating that Bitcoin, unlike the US dollar

could become vulnerable as a result of over-speculation which could ultimately cause an irrecoverable crash. In addition, Bitcoin could be threatened by the emergence of a new currency making it obsolete, or users abandoning it for some other reason.²⁰⁹ Opponents argue that Bitcoin is in a bubble from which it will not recover once the bubble bursts,²¹⁰ and the computational power required to support the system is currently straining at the seams.²¹¹ Should this be true, the cost of regulation far outweighs the costs of self-regulation.²¹² If Bitcoin

has no guaranteed minimum demand because the US government does not take Bitcoin as payment for taxes).

209. Jeffries, *supra* note 121 (describing numerous reasons why Bitcoin may fail).

210. In the past year, Bitcoin's value surged from \$13, reached a high of \$1147 on December 4, 2013, and finished the year at \$757. *Bitcoin Price Index Chart*, *supra* note 73 (to access, download the historical price data excel document).

211. According to *The Economist*, the mining system has led to an "unsustainable computational arms-race" because as equipment gets faster, mining gets harder. *Bitcoin Under Pressure*, *supra* note 189. But faster equipment is constantly being developed, which reduces the potential rewards for other miners unless they also buy more computational power. *Id.* Additionally, because the reward for mining a block halves about every four years, the reward will drop from twenty-five to twelve and a half Bitcoins sometime in the year 2017. *Id.* If the reward declines, so, it seems, would the incentive to continue to verify the integrity of the block-chain. *See id.* Moreover, every participant in the system must keep a copy of the block chain, which currently exceeds eleven gigabytes, deterring casual use. *Id.* Finally, volunteer machines or nodes, which relay transactions and transmit updates to the block-chain, are necessary for the system's survival, yet there is no compensation for those who maintain the nodes. *Id.* The cost of Bitcoin is ultimately tied to the cost of mining: "[w]hen the (expected) value of a Bitcoin is below the cost of mining it, none will be produced and the value of Bitcoin will rise." Gans, *supra* note 208.

212. Furthermore, it is worth noting that people or more specifically, large financial institutions, tend to socialize their losses and privatize their gains. *See* Rana Foroohar, *The Myth of Financial Reform*, TIME, Sept. 23, 2013, at 31 available at <http://content.time.com/time/subscriber/article/0,33009,2151806,00.html> (describing the "too big to fail" concept that led to the bailout of large financial institutions in the United States after engaging in risky investments). It is possible that if the US government were to become heavily involved in regulating the Bitcoin market and if a bubble occurs, consumers and industry players alike will seek the government's aid in times of loss. *See generally* Peter T. Treadway, *Privatize the Gains, Socialize the Losses*, BIG PICTURE (Feb. 1, 2010), <http://www.ritholtz.com/blog/2010/02/privatize-the-gains-socialize-the-losses/>. (Describing failure of our monetary system, in particular the 'socialize the loss and privatize the gain' oriented economy, where the government absorbs the losses). Presently, the Bitcoin market is not big. As of February 2, 2014, there were a little over twelve million Bitcoins in circulation, at a market capitalization of \$11,644,555,870. *Market Capitalization*, BLOCK CHAIN, https://blockchain.info/charts/market-cap?timespan=30days&showDataPoints=false&daysAverageString=1&show_header=true&scale=0&address= (last visited Feb. 2, 2014). But, if the market continues to grow, this concern may become more prevalent. Therefore, it is advisable the government stay relatively out of it, lest it face another housing bubble type situation.

faces an inevitable demise, there is little point in investing resources and efforts in devising sophisticated regulations only to see the system entirely collapse.

However, even if Bitcoin is in a bubble the entire system may not collapse. It can still be a useful store of wealth or medium of exchange.²¹³ Experts have said that it fills a market need by facilitating e-commerce as a payment method.²¹⁴ If, or until the bubble bursts, however, Bitcoin will continue to be a speculative investment, and it is only once the market crashes that “we’ll see whether it [Bitcoin] has legs.”²¹⁵ The way Bitcoin may be used after its potential crash, if at all, will help regulators further define the appropriate legal framework. Until then, or until there is some sign Bitcoin has become more stable, governments should mostly sit tight and allow Bitcoin to develop.

D. Ideal Regulatory Solution: Adoption of a Combined Regulatory Model

Finally, this Note proposes that self-regulation in the world we currently live in cannot fully function without some regulatory guidance. As such, this Note proposes that the US government may benefit from emulating some elements of China’s current regulatory approach as well as incorporating aspects of the Finnish model. As described above, by defining Bitcoin as a commodity rather than a currency, the Chinese policy implements a vague legal framework that gives Bitcoin users a workable legal definition of the technology. However, this Note advocates that unlike the Chinese model, the US should by no means restrict goods and services from being priced in Bitcoin and should allow use of Bitcoin similar to that the Finnish and model has permitted.

213. Tim Worstall, *Yes Of Course Bitcoin Is Showing Bubble Behaviour*, FORBES (Nov. 19, 2013), <http://www.forbes.com/sites/timworstall/2013/11/19/yes-of-course-bitcoin-is-showing-bubble-behaviour/>.

214. David Woo et al., *Bitcoin: A First Assessment*, BANK OF AM. MERRILL LYNCH 1 (Dec. 5, 2013), available at <http://cryptome.org/2013/12/boa-bitcoin.pdf>.

215. Caitlin Fitzsimmons, *Why Bitcoin Could Succeed Where Facebook Credits Failed—Even After the Bubble Bursts*, BUS. REV. WKLY. (Dec. 11, 2013), http://www.brw.com.au/p/tech-gadgets/bubble_bitcoin_could_succeed_where_7DW6j1z2gZo7ZegicC7xPO (quoting Jonathan Kelly, PayPal head of retail services).

With respect to the Chinese policy, the US government should emulate the following elements: (1) provision of a vague legal framework by defining what Bitcoin is, namely, a commodity and not a currency; (2) removal of financial intermediaries from participating in the Bitcoin economy; (3) transfer of risk to those directly participating in the Bitcoin economy, i.e., the users themselves; and, (4) the government's maintenance of power to track and protect against money laundering or other Bitcoin related criminal activities. Nevertheless, emulating the Chinese approach to its full extent would completely stifle Bitcoin innovation and development. Emulating the Finish model which classifies Bitcoin as a commodity, but allows goods and services to be priced in Bitcoin, is therefore of fundamental importance.

Such a framework would allow the government to monitor Bitcoin activity, while at the same time allow the system to continue to develop relatively freely. By not defining Bitcoin as a currency, the Chinese government restricts it from being used as a payment mechanism, but avoids having to define it within current currency control regulations.²¹⁶ What is more, by defining Bitcoin as a commodity but prohibiting financial intermediaries from meddling with Bitcoin, the Chinese government diverts Bitcoin's risks to the users themselves.²¹⁷ However, by restricting merchants from pricing goods and services in Bitcoin, the Chinese policy completely restricts Bitcoin from being used as a payment mechanism and instead pushes it into the realm of a speculative commodity. Consequently, permitting the pricing of goods in Bitcoin, as the Finish policy suggests, is necessary for Bitcoin to achieve its full potential as a payment mechanism.

Bitcoin, even classified as a commodity, as done in Finland and Japan, can be used as a payment protocol or a means of exchange.²¹⁸ Users pricing goods in bitcoins and accepting the commodity are put

216. See *Coinsider This! Show 12—Bitcoin in China*, *supra* note 180.

217. Ryan Whitwam, *China Bans Bitcoin, Lowering the Ceiling of the Currency's Potential*, EXTREME TECH (Dec. 5, 2013), <http://www.extremetech.com/internet/172187-china-bans-financial-institutions-from-dealing-in-bitcoin>. China also has an interest in safeguarding its monetary control policies, which function to keep its currency from increasing in value. *Id.* Bitcoin, on the other hand, has increased tremendously in value. *Id.*

218. See Pohjanpalo, *supra* note 177.

on notice of the commodity's risk but can also take measures to avoid that risk simply by using the software as a means of exchange. Users can accept bitcoins at the current exchange rate and immediately convert the bitcoins received into their preferred fiat currency.²¹⁹ At the moment, companies exist that will price in US currency, and when they receive payment in bitcoins, they deposit an equivalent amount into the depositor's bank account.²²⁰ As a consequence, it is these companies (and not the government or federal entities) as well as the user's themselves that are accepting Bitcoin's volatile exchange rate, which currently comes at a cost of a 1 percent transaction fee.²²¹

I would argue that a regulatory approach combining these two models is temporarily beneficial in the United States, as it will allow users to continue using Bitcoin at the cost of assuming the risks of its volatile nature until Bitcoin becomes more stabilized.²²² As Nassim

219. See Andreessen, *supra* note 43. Overstock.com is an example of a company that aids in this exchange. Overstock prices are in dollars, which means that when a person makes a payment in Bitcoin, Coinbase will accept the bitcoins and deposit the equivalent dollar amount in the person's bank account. Brito et al., *supra* note 76, at 14. As a result, Coinbase is the entity accepting the risk of Bitcoin's volatile exchange rate. Brito et al., *supra* note 76, at 14 (citing Cade Metz, The Grand Experiment Goes Live: Overstock.com is Now Accepting Bitcoins, WIRE MAGAZINE (Jan. 9, 2014), <http://www.wired.com/business/2014/01/overstock-bitcoin-live/>).

220. See, e.g., Rob Wile, *Bitcoin is Experiencing its Longest Stretch of Price Stability in a While*, BUSINESS INSIDER (Jan. 29, 2014), <http://www.businessinsider.com/bitcoin-volatility-slows-2014-1> (noting that Overstock.com, a retailer, uses such a method to avoid volatility risks, immediately converting its Bitcoins into USD). When Overstock.com, who prices its goods in dollars, receives bitcoins, it deposits them with Coinbase, a Bitcoin exchange, who will, in turn, deposit the equivalent dollar amount into Overstock's bank account. See Brito et al., *supra* note 76, at 14.

221. Brito et al., *supra* note 76, at 14 (citing Cade Metz, The Grand Experiment Goes Live: Overstock.com Is Now Accepting Bitcoins, WIRE MAGAZINE (Jan. 9, 2014), <http://www.wired.com/business/2014/01/overstock-bitcoin-live/>). Note that this fee is lower than the 2.2% of credit card transaction fees. *Id.* (citing *What fees does Coinbase charge for merchant processing?*, COINBASE SUPPORT (Feb. 5, 2014), <http://support.coinbase.com/customer/portal/articles/1277919-what-fees-does-coinbase-charge-for-merchant-processing->). Note that Bitcoin, in certain circumstances, can move the cost of the transaction to both parties, i.e., the merchant and the buyer. That is, in the scenario where the buyer exchanges US dollars for bitcoins, rather than mines for his own, the buyer pays a 1 percent transaction fee for this exchange. When the merchant subsequently sells bitcoins in exchange for US dollars, the merchant must pay another 1 percent transaction fee, for a total of a 2 percent transaction cost, which is shared between the buyer and the seller.

222. Nassim Nicholas Taleb's discussion in the book *Antifragile: Things that Gain from Disorder*, is particularly insightful here because, as Taleb argues, "no stability, without

Nicholas Taleb has phrased it, “Light control works; close control leads to overreaction.”²²³ Once Bitcoin becomes much more stable, further regulation and inclusion of financial institutions and banks in the equation may be advisable. At this point, however, Bitcoin is much too young and risky for regulated financial institutions and banks to become involved.²²⁴ China’s solution, to the extent described, together with the Finnish model’s pricing of goods and services in Bitcoin is preferable at the moment because it gives Bitcoin the freedom it needs to develop and stabilize, prior to the government intervening and having to assume the risks.

Taking such a combined regulatory approach will give the United States a tighter reign on the entire Bitcoin system. The government will have increased monitoring power. And it will have the regulatory authority it needs if and when it becomes necessary to exercise full-fledged regulatory power, because it will already have established a working framework. Because the regulation is designed to be vague, regulatory entities that may have authority to the authority to regulate Bitcoin (like the Securities Exchange Commission or the CFTC) are not excluded from the debate but are not forced to act immediately either. More importantly, this vague legal framework will continue to

volatility.” NASSIM NICHOLAS TALEB, *ANTIFRAGILE THINGS THAT GAIN FROM DISORDER* 107 (2012). Taleb notes that systems benefit from some dose (but not too much) of volatility and confusion because a certain level of volatility exposes the risks and vulnerabilities inherent in the system, which causes fluctuations to have only a small impact on the system and consequently stabilize the system overall. *Id.* at 100–01. Taleb further argues that a system that artificially suppresses volatility, through some kind of intervention, is dangerous because it exhibits no visible risks. *Id.* at 106. Under such a system, variations are rare, but when they occur, they are extreme. *Id.* at 91. Under this logic, if regulation were introduced as a way of inhibiting fluctuations in the Bitcoin system, the system would be much more likely to catastrophically blow up sometime in the future. *See id.* at 106. Note, however, that Taleb does not argue for nonintervention (no regulation), but rather naïve intervention. *Id.* at 119. At this point in time, it seems as though intervention in the Bitcoin system would be the kind of naïve intervention Taleb has warned us about.

223. *Id.* at 100.

224. *See generally* EBA Opinion on Virtual Currencies (July 2014), available at <http://www.eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf> (Assessing the various risks inherent in virtual currency systems generally and recommending that regulated financial services (credit institutions, payment institutions, e-money institutions) “should be discouraged from buying, holding or selling VC [virtual currencies]s,” which would shield these regulated entities from the risks of virtual currencies).

allow Bitcoin technology to freely develop without isolating it to unknown parts of the world.

Regulating Bitcoin as a digital commodity unfortunately restricts its use as a full-fledged currency and likely subjects it to the CFTC's regulations, when Bitcoins begin to be traded as options or futures contracts in the United States.²²⁵ Nevertheless, the proposed solution is proper because it does not fully inhibit the system's development. Even as a commodity, the Bitcoin protocol can be used as a method of exchange. Furthermore, Bitcoin is currently utilized more as a speculative tool rather than a currency.²²⁶ Presently, its high volatility, resulting from speculative activity, has hindered Bitcoin's general acceptance as a means of payment for on-line commerce,²²⁷ but it is also this high volatility that has spurred interest in using Bitcoin as a commodity to hedge those risks.

By defining Bitcoin as a commodity, the government will help steer Bitcoin's course, and perhaps allow its price and use to stabilize within a specific setting. The proposed solution is obviously a short-term solution and fails to determine what will happen in the long-term. However, the beauty of this framework is that it allows both Bitcoin and the government the necessary flexibility for future development.

This proposal assumes Bitcoin will continue to be used as something like a currency or commodity rather than as a purely speculative instrument. At the moment, Bitcoin's price volatility together with other risks inherent in the system makes the use of financial instruments, such as derivatives, to hedge against these risks, highly appealing to Bitcoin users. But, these very same arguments support exclusion of financial institutions and banks from participating in Bitcoin, at least for the time being. As a consequence, China's regulatory model, together with the Finish model's modifications, is suitable for current Bitcoin development in the United States.

225. See Johnson, *supra* note 144; see also note 155 and accompanying text.

226. See *Coinsider This! Show 12—Bitcoin in China*, *supra* note 180.

227. See Albrecht, *supra* note 75.

CONCLUSION

Given the major developments that need to be made to further understanding Bitcoin, it is uncertain whether one day you will be able to universally purchase your daily coffee in bitcoins. What is certain is that Bitcoin is an innovative technology that has caught the world's attention, and has, if nothing else, become a highly disruptive technology. Sitting at the crossroads between political ideology and financial reform, Bitcoin begs regulators to question the very foundation upon which the current financial and economic systems rest.

Regulation is a necessary friction, and given the potential disruption Bitcoin may cause, governments around the world will logically want to regulate it. But, given Bitcoin's ideological and technological underpinnings, the success of the system requires a degree of regulatory freedom. Proper regulation will not stifle innovation but will allow the Bitcoin system to self-regulate within a vaguely defined regulatory framework.

Numerous questions will remain and will arise as Bitcoin continues to develop, but given Bitcoin's infancy, it is advisable the government not fully jump into regulation until Bitcoin is better understood. What is more, Bitcoin is a truly global phenomena. Its development and regulation will not take place domestically but will be fully realized only when the world comes together to define its status.