

BITCOIN: THE NAPSTER OF CURRENCY

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In a 1917 letter, Albert Einstein offered his views of technological progress being like an axe in the hands of a pathological criminal.¹ Almost a century later, it is hard to doubt Einstein's foresight. The best demonstration of technological progress in our lifetime undoubtedly is the internet. The wealth of knowledge and ease of communication the information super-highway has brought to the world is without parallel; however, just as Einstein predicted, with any technological advancement there is always the possibility of a sinister use.

In the case of the internet, one such malicious use is aptly referred to as "the darknet," a largely unknown portion of the internet which is only reachable through the use of special encryption software which allows users to remain completely anonymous while browsing certain sites.² The darknet has earned the reputation as the Wild West of the internet, because there truly is no semblance of authority.³ One of the most popular sites darknet users browsed was the now defunct site, Silk Road.⁴ Launched in February 2011, this infamous website

1. ALAN LIGHTMAN, A SENSE OF THE MYSTERIOUS: SCIENCE AND THE HUMAN SPIRIT 110 (2005).

2. Brad Chacos, *Meet Darknet, the Hidden Anonymous Underbelly of the Searchable Web*, PCWORLD (Aug. 12, 2013, 3:00 AM), <http://www.pcmag.com/article/2046227/meet-darknet-the-hidden-anonymous-underbelly-of-the-searchable-web.html>. The most popular type of encryption software is The Onion Router (ToR), a relay system originally developed by the Navy Research Laboratory to create a medium for safe and discrete military communications. Donna Lienwand Leger, *How FBI Brought Down Cyber-Underworld Site Silk Road*, USA TODAY (May 15, 2014, 2:54 PM), <http://www.usatoday.com/story/news/nation/2013/10/21/fbi-cracks-silk-road/2984921>. The best way to explain how the system works is to equate the whole process to driving. *See id.* (illustrating that when most users on the internet contact a merchant, the identity can be traced back through the server; however, this is not feasible with ToR). A typical driver will take the most efficient path to their destination, much like a user accessing a website will access the fewest possible servers. The premises behind the ToR network borrow from the driver who suspects he is being followed and executes a series of turns at random intervals in order to lose a tail. *See id.* (detailing how the ToR network creates a random path that becomes extremely difficult to follow or track). When a user is trying to access one of these websites hidden behind the ToR network, the software will initiate a random path through a large number of relays before accessing the site. *Id.* The software is built to encrypt any identifying information by hiding the complete path. *Id.*

3. Jack Phillips, *Uncovering the Darknet*, EPOCH TIMES (Oct. 31, 2011), <http://www.theepochtimes.com/n2/technology/uncovering-the-darknet-63483.html>.

4. Andy Greenberg, *Drug Market 'Agora' Replaces the Silk Road as King of the Dark*

became the virtual representation of the stereotype people imagine when they hear the phrase, “black market.” The “wares” available for purchase on this site were what anyone would typically expect; mainly: narcotics, hacked documents, and illegal firearms.⁵ Unfortunately, there are a plethora of other sites on the darknet that offer a wide variety of vices including: illegal porn,⁶ online gambling,⁷ hacking services,⁸ and even murder for hire.⁹ In keeping with the anonymous nature of the darknet, the exclusive currency used for these transactions is Bitcoin, a digital cryptocurrency.¹⁰

It is this substantial link to criminal activities that has fueled the talk of regulating Bitcoin. A number of countries have already enacted regulatory frameworks to combat these concerns,¹¹ but the United States has only issued limited

Net, WIRED (Sept. 2, 2014, 6:30 AM), <http://www.wired.com/2014/09/agora-bigger-than-silk-road>.

5. Donna Leinwand Leger, *Federal Agents Seize Alleged Silk Road Profits Worth \$35M*, USA TODAY (Oct. 26, 2013, 8:07 AM), <http://www.usatoday.com/story/news/nation/2013/10/25/silk-road-bitcoins-seized/3196437>; Andy Greenberg, *Sting Operation Nabs Alleged Online Arms Dealer on Silk Road Competitor Site*, FORBES (Nov. 7, 2013, 3:58 PM), <http://www.forbes.com/sites/andygreenberg/2013/11/07/sting-operation-nabs-alleged-online-arms-dealer-via-silk-road-competitor-site>.

6. Joel Falconer, *Mail-Order Drugs, Hitmen & Child Porn: A Journey into the Dark Corners of the Deep Web*, NEXT WEB (Oct. 8, 2012, 2:56 AM), <http://thenextweb.com/insider/2012/10/08/mail-order-drugs-hitmen-child-porn-a-journey-into-the-dark-corners-of-the-deep-web>.

7. *Bitcoins: The Currency of the Darknet*, ONLINEMBA, <http://www.onlinemba.com/blog/bitcoins>.

8. Mohit Kumar, *What Is the Deep Web? A First Trip into the Abyss*, HACKER NEWS (May 30, 2013), <http://thehackernews.com/2012/05/what-is-deep-web-first-trip-into-abyss.html>.

9. Aaron Sankin, *Searching for a Hitman in the Deep Web*, DAILY DOT (Oct. 10, 2013, 9:48 AM), <http://www.dailydot.com/crime/deep-web-murder-assassination-contract-killer>.

10. *Id.*; Ewan Palmer, *Bitcoins Used to Fund Online Child Porn Warns Europol Police Chief*, INT'L BUS. TIMES (Apr. 22, 2014, 2:42 PM), <http://www.ibtimes.co.uk/bitcoins-used-fund-online-child-porn-warns-europol-police-chief-1445608>; *Bitcoins: The Currency of the Darknet*, *supra* note 7; Kumar, *supra* note 8. A cryptocurrency is a digital currency that uses cryptography as a form of security to legitimize the system. Cory Janssen, *Cryptocurrency*, TECHOPEDIA, <http://www.techopedia.com/definition/27531> (last visited Nov. 11, 2014). Today, the form of many cryptocurrencies issues a user a public and private key. *See infra* Part I.B (discussing digital wallets).

11. LAW LIBRARY OF CONG., REGULATION OF BITCOIN IN SELECTED JURISDICTIONS (2014), available at <http://www.loc.gov/law/help/bitcoin-survey/regulation-of-bitcoin.pdf>.

guidance concerning the matter.¹² In August 2013, the Senate Homeland Security and Governmental Affairs Committee launched an investigation into what policies various government agencies¹³ are enacting to regulate virtual currencies.¹⁴ The hearing resulted in many agencies giving Bitcoin a positive recommendation, but there was still a substantial group that expressed skepticism on the use of the digital currency.¹⁵

Certainly, there is no denying Bitcoin's auspicious beginnings, which Part I will cover in detail, as well as offer a brief introduction to Bitcoin and further discussion on the important characteristics of this revolutionary currency. Part II will lay out the reasoning behind the regulatory debate by discussing both legal and illegal uses of Bitcoin. Part III will examine the actions of other foreign governments, focusing exclusively on the regulatory and taxation policies undertaken by the governments of China, Germany, and Canada. The focus of Part IV will consist of a proposed strategy on how the United States can best regulate Bitcoin. After proposing the strategy, there will be a discussion highlighting the advantages this plan offers to law enforcement, businesses, and consumers. Part V will examine the various potential taxation strategies scholars argue Bitcoin falls under and compare them to the strategies deployed by Germany and Canada. This section then goes on to propose an

12. See generally DEP'T OF THE TREASURY FIN. CRIMES ENFORCEMENT NETWORK, APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES (2013), available at http://www.fincen.gov/statutes_regs/guidance/pdf/FIN-2013-G001.pdf (discussing limited regulations on users of virtual currencies).

13. The committee has contacted a range of government agencies including the Department of Homeland Security, Justice Department, Federal Reserve, Treasury Department, Securities and Exchange Commission, and Office of Management and Budget. Zachary Warmbrodt, *Congress Starts Looking into Bitcoin*, POLITICO (Aug. 13, 2013, 12:08 AM), <http://www.politico.com/story/2013/08/congress-starts-looking-into-bitcoin-95464.html>.

14. See Kashmir Hill, *Congress Is Nervous About This Whole Bitcoin Thing*, FORBES (Aug. 15, 2013, 6:24 PM), <http://www.forbes.com/sites/kashmirhill/2013/08/15/congress-is-nervous-about-bitcoin> (discussing the implementation of Bitcoin regulations).

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

ideal taxation strategy for the United States, which would be favorable to both consumers and investors, without jeopardizing the sufficient collection of personal tax liability.

I. ORIGIN AND EXPLANATION OF BITCOIN

A. *Brief History of the Founding of Virtual Currencies*

Many of the virtual currencies can trace their origins to the growing tide of distrust of government and financial sectors. The first virtual currency to really sustain any popularity was WebMoney, which was launched in response to the collapse of the Russian banking sector in 1998.¹⁶ A number of external and internal influences caused this financial disaster, but certainly the driving force was the decline in the Russian stock market.¹⁷ Over the course of the first eight months of 1998, the Russian stock market lost approximately 75% of its value.¹⁸ On August 17, 1998, the Russian government responded to the economic crisis by devaluing their currency, defaulting on domestic debt, and declaring a moratorium on payments to foreign creditors.¹⁹ With faith lost in the Russian economy and their currency heavily devalued, many of the largest commercial banks closed.²⁰ As a result, millions of Russians saw their savings disappear virtually overnight.²¹

WebMoney seized this opportunity by directing its initial marketing strategy at those individuals who lost complete trust in the banking sector but still remained interested in conducting e-commerce.²² By becoming one of the first entities in Russia to develop a system that allowed a user to fund an account for online

16. Mark Herpel, *2011 Observations on the Digital Currency Industry*, DGC MAG., Jan. 2011, at 3, 9.

17. Brian Pinto & Sergei Ulatov, *Financial Globalization and the Russian Crisis of 1998*, at 3 (World Bank, Working Paper No. 5312, 2010), available at <https://openknowledge.worldbank.org/bitstream/handle/10986/3797/WPS5312.pdf>.

18. Abbigail J. Chiodo & Michael T. Owyang, *A Case Study of a Currency Crisis: The Russian Default of 1998*, FED. RES. BANK ST. LOUIS REV., Nov.–Dec. 2002, at 7, 14.

19. *Id.* at 10.

20. Herpel, *supra* note 16, at 10.

21. *Id.*

22. *See id.* (stating that WebMoney went live in 1998 after the collapse of the banking sector in Russia, as consumers were turning to non-bank internet alternatives).

purchases without the requirements of a bank account or credit card,²³ WebMoney quickly established itself as an indispensable instrument of commerce within a chaotic Russian economy.²⁴ The primary element of the currency's success was the development of two user-friendly ways to fund an account. The first was essentially a reverse ATM, called a "cash-kiosk."²⁵ WebMoney installed these machines all around high-traffic areas, such as shopping malls, theatres, and subways.²⁶ All users had to do in order to deposit funds into their accounts was simply type in their WebMoney identification number and deposit cash. The second, arguably more user-friendly way, is akin to a gift card.²⁷ A consumer simply went to a store and bought a card worth a specified amount.²⁸ In order to fund the account, users would log into their account and type in the pin number located on the back of the card.²⁹ Because of its popularity, WebMoney has become a staple in Russian daily life with many vendors, including cell phone companies, internet providers, and cable providers accepting it as a form of payment.³⁰

Since its launch, WebMoney has attempted to expand worldwide and now has over 28 million users conducting roughly 450,000 transactions daily.³¹ However, it appears that this virtual currency has not been able to gain a strong foothold outside of Russia, since almost two-thirds of the transactions take place on Russian servers.³² Although there have been many

23. *Id.*

24. Mark Herpel, *Webmoney Prepaid Solutions: A Case Study in Success*, DGC MAG., Jan. 2008, at 19, 19.

25. *Id.*

26. *Id.*

27. *Id.* at 20.

28. *Id.*

29. *See Help & FAQ*, BUYWMZ.COM, <https://buywmz.com/faq> (last visited Nov. 13, 2014) (explaining how customers can fund their accounts).

30. Herpel, *supra* note 24, at 20. WebMoney has become such an accepted means of payment that many merchants have developed phone systems where users can simply type in the pin number on the gift card in order to pay a bill. *See id.* (explaining the ways services, including phone systems, are implementing WebMoney).

31. *Statistics*, WEBMONEY, <http://www.wmtransfer.com/eng/information/statistic> (last visited Mar. 13, 2015).

32. *See id.* (comparing the number of transactions using the U.S. Dollar to the

virtual currencies over the past decade and a half,³³ it was not until 2011 that a virtual currency has finally been able to achieve global notoriety.³⁴

B. What is Bitcoin?

Bitcoin is a peer-to-peer payment system that launched on January 3, 2009.³⁵ There is little known about the creator(s) because all of the original discussions about the currency and protocols were published under an alias, Satoshi Nakamoto.³⁶ For the first few years of its existence, Bitcoin stood as a novel idea of how financial transactions in the future would be conducted.³⁷ However, by March 2013, the currency had proven itself to be a legitimate and viable form of currency when it reached an astonishing total value of over one billion dollars.³⁸

Russian Ruble). The common abbreviation for the U.S. Dollar is WMZ, while the one for the Russian Ruble is WMR. Herpel, *supra* note 24, at 20.

33. See Herpel, *supra* note 16, at 9 (stating that WebMoney, an original virtual currency, began more than fifteen years ago); Carlyle Alberico, *Bitcoin 'Hugely' Threatening Banks, Says Tim Draper*, BEST COIN EXCHANGE (Oct. 10, 2014, 3:28 PM), <http://bestcoinexchange.com/bitcoin-hugely-threatening-banks-says-tim-draper> (mentioning the rise of virtual currency in South Korea in the early 2000's); Patrick McGuire, *Such Weird: The Founders of Dogecoin See the Meme Currency's Tipping Point*, MOTHERBOARD (Dec. 23, 2013, 2:50 PM), <http://motherboard.vice.com/blog/dogecoins-founders-believe-in-the-power-of-meme-currencies> (mentioning the variety of cryptocurrencies that have popped up in the last years).

34. See Chris O'Brien, *What Seizure of Illicit Silk Road Means for Virtual Currency Bitcoin*, L.A. TIMES (Oct. 3, 2013), <http://articles.latimes.com/2013/oct/03/business/la-fi-tn-bitcoin-silk-road-seizure-effect-20131003> (stating that, in 2011, Senator Charles Schumer warned Bitcoin could be used by terrorists and criminals).

35. Jeffrey Powers, *January 3, 2009: Bitcoin Introduced, 1983: Computer—Machine of the Year*, DAY TECH HIST. (Jan. 3, 2014), <http://www.dayintechhistory.com/dith/january-3-2009-bitcoin-introduced-1983-computer-machine-year>; *Frequently Asked Questions*, BITCOIN, <https://bitcoin.org/en/faq> (last visited Nov. 13, 2014).

36. *Frequently Asked Questions*, *supra* note 35. Thus far, no one has confirmed the identity of Satoshi Nakamoto, but there currently are a number of people trying to identify who is behind this revolutionary currency. John Biggs, *Who is the Real Satoshi Nakamoto? One Researcher May Have Found the Answer*, TECHCRUNCH (Dec. 5, 2013), <http://techcrunch.com/2013/12/05/who-is-the-real-satoshi-nakamoto-one-researcher-may-have-found-the-answer>.

37. See *Bitcoin, Money of the Future?*, HUFFINGTON POST (July 23, 2013, 11:42 AM), http://www.huffingtonpost.com/visualnewscom/bitcoin-money-of-the-futu_b_3636463.html (stating that Bitcoin began as an idea that would revolutionize financial transactions).

38. Maxim Lott, *Digital 'Bitcoin' Currency Surpasses 20 National Currencies in*

The popularity of Bitcoin can at least be partially attributed to the ease with which it can be acquired. In order to obtain bitcoins, a user must first create a digital wallet.³⁹ These digital wallets contain both a public and private key; the public key is akin to an email address that a user will share with other Bitcoin users in order to have them send bitcoins.⁴⁰ Alternatively, the private key is similar to a pin number for a debit card, the purpose of which is to confirm that a user wishes to spend bitcoins in his wallet.⁴¹ There are multiple types of digital wallets, but the two most prevalent are the software wallet and the mobile wallet.⁴² The software wallet is installed on a computer with the bitcoins themselves stored on a hard drive or storage advice.⁴³ Most of the users who opt to use this type of wallet are investors because they prefer to have their bitcoins located off network on a flash drive or portable hard drive as an added layer of protection from hackers.⁴⁴ On the other hand, the mobile wallet appeals to consumers because it allows for the storage of bitcoins

Value, FOX NEWS (Mar. 29, 2013), <http://www.foxnews.com/tech/2013/03/29/digital-currency-bitcoin-surpasses-20-national-currencies-in-value> (discussing how Bitcoin was worth more than twenty countries' currency).

39. Perianne Boring, *Bitcoin Basics for the '76 Percenters' Who Don't Have a Clue What It Is*, FORBES (Feb. 22, 2014, 9:00 AM), <http://www.forbes.com/sites/perianneboring/2014/02/22/bitcoin-basics-for-the-76-percenters-who-dont-have-a-clue-what-it-is>.

40. Daniel Miller, *Bitcoin Explained: The Digital Currency Making Millionaires*, ABC NEWS (Dec. 1, 2013, 3:54 PM), <http://www.abc.net.au/news/2013-12-02/bitcoins-the-digital-currency-explained/5119034>.

41. See *id.* (establishing that a private key is essentially a code the user gives in order to transfer his own money to someone else's wallet).

42. *Choose Your Bitcoin Wallet*, BITCOIN, <https://bitcoin.org/en/choose-your-wallet> (last visited Nov. 13, 2014).

43. See Julio Ojeda-Zapata, *How Is It Created? Spent? Here's a Bitcoin Primer*, TWINCITIES.COM (Feb. 22, 2014, 12:33 PM), http://www.twincities.com/business/ci_25202163/bitcoin-primer (discussing the user's ability to download bitcoins straight onto their computers).

44. See Mohit Kumar, *Bitcoin's Wallet Service Instawallet Hacked, Suspended Indefinitely*, HACKER NEWS (Apr. 4, 2013), <http://thehackernews.com/2013/04/bitcoins-wallet-service-instawallet.html> (discussing how one hacker was able to steal \$250,000 worth of bitcoins from an online wallet service); Vitalik Buterin, *Bitcoin Wallet Reviews—Ease of Use and Security*, BITCOIN MAG. (Mar. 5, 2012), <http://bitcoinmagazine.com/327/bitcoin-wallet-options> (emphasizing security as a big factor in getting a desktop, or software, wallet, and that people who need safe, long-term storage, like an investor, would use this kind of wallet).

on a mobile device.⁴⁵ Users who choose this type of wallet do so primarily because of the convenience it offers when conducting personal transactions.⁴⁶

Any transaction involving the transfer of bitcoins is recorded in the block chain, a public ledger which contains all bitcoin transfers.⁴⁷ These blocks are formed by a network of independent users known as Bitcoin miners who have dedicated their computers to record and confirm the transactions.⁴⁸ On average, a new block is created and added to the block chain approximately every ten to twelve minutes; however, the exact timing of the formation of a new block is unpredictable because part of the process requires the solving of complex algorithms.⁴⁹ As a reward for contributing their computer power, the Bitcoin miner or pool of miners⁵⁰ responsible for solving the algorithm receive a number of bitcoins.⁵¹ As a result, block creation is the only mechanism that generates bitcoins.⁵² Thus, the algorithms have been designed

45. *How to Store Your Bitcoins*, COINDESK, <http://www.coindesk.com/information/how-to-store-your-bitcoins> (last updated Dec. 22, 2014)

46. See Michael Manville, *How to Choose the Right Bitcoin Wallet*, BITCOIN-U (July 8, 2014), <http://bitcoin-u.com/bitcoin-guides/beginners/how-to-choose-right-bitcoin-wallet> (discussing the convenience and security of Bitcoin wallets).

47. Miller, *supra* note 40.

48. *Id.*; Kathleen Allen, *A Bitcoin Primer*, ARIZ. DAILY STAR (Feb. 23, 2014, 12:00 AM), http://tucson.com/business/local/a-bitcoin-primer/article_aff0568e-bf71-5c88-b821-38c1b9c4e277.html.

49. Allen, *supra* note 48.

50. As a result of the rapid increase in technology required to mine bitcoins profitably, many users have joined together to form Bitcoin-mining pools, which allow computers to work together to solve the complex equations and share in the amount of bitcoins created. *Mining*, BITCOININTRO.COM, <http://bitcoinintro.com/mining> (last visited Nov. 13, 2014).

51. Allen, *supra* note 48. Originally, fifty bitcoins were the reward, but because of a raise in difficulty, now only twenty-five are awarded. *Bitcoin, Money of the Future?*, *supra* note 37. The payout to miners will continue to decrease by half at specific intervals until 2140, at which time the compensation the miners will receive will be a small transaction fee from each transaction recorded within the block. Alex Wawro, *7 Things You Need to Know About Bitcoin*, PCWORLD (Apr. 11, 2013, 3:31 AM), <http://www.peworld.com/article/2033715>; *Bitcoin Transaction Fees Explained*, BITCOIN FEES, <http://bitcoinfees.com> (last updated Feb. 12, 2014).

52. *Bitcoin, Money of the Future?*, *supra* note 37.

to become increasingly difficult over time in order to ensure that bitcoins and block chains are not created too rapidly.⁵³

There are four primary characteristics that have propelled Bitcoin's popularity. First, unlike fiat money, which can be continually printed,⁵⁴ Bitcoin is finite in nature.⁵⁵ The system was specifically designed only to create twenty-one million units by 2140.⁵⁶ This means that similar to gold and silver, Bitcoin has an internal check against inflation that most current globally recognized currencies do not have.⁵⁷ Second, the nature of the peer-to-peer systems allows for almost instantaneous movement of funds anywhere in the world.⁵⁸ Today, in most cases, even when attempting to send a domestic wire transfer, it may be delayed multiple days for funds to clear.⁵⁹ Third, the currency has very low transaction costs.⁶⁰ This is another byproduct of the peer-to-peer system, because rather than having an expensive system ensuring the validity of each transaction, the miners serve this function while pursuing the creation of bitcoins.⁶¹ The final and most controversial of the popular characteristics of Bitcoin is the anonymity it offers the user when conducting transactions.⁶² In

53. Wawro, *supra* note 51.

54. John Butler, *Top Ten Reasons Why Fiat Currency Is Superior to Gold (or Silver) Money*, FIN. SENSE (Dec. 20, 2012), <http://www.financialsense.com/contributors/john-butler/top-ten-reasons-why-fiat-currency-is-superior-to-gold>. Fiat money stands for the concept that a currency's value is derived from the faith others have placed in it because the currency has been officially recognized as a form of legal tender by a country. Pascal-Emmanuel Gobry, *All Money Is Fiat Money*, FORBES (Jan. 8, 2013, 5:23 AM), <http://www.forbes.com/sites/pascalemmanuelgobry/2013/01/08/all-money-is-fiat-money>.

55. Wawro, *supra* note 51.

56. *Id.*

57. See Fred Marion, *Bitcoin Inflation Hedge: The New Gold and Silver*, TRADINGSTOCKS.ME (Nov. 19, 2013), <http://tradingstocks.me/bitcoin-inflation-hedge-the-new-gold-and-silver> (noting that unlike fiat currencies, gold, silver, and bitcoin cannot be printed or made in unlimited supplies).

58. Miller, *supra* note 40; Allen, *supra* note 48.

59. See, e.g., *USAA Bank Wire Transfer Instructions: Domestic Wire Transfers*, USAA, https://www.usaa.com/inet/pages/banking_wire_transfer_instructions (last visited Nov. 13, 2014) (informing customers to wait one day for transfers to post, or more if all the necessary information is not provided).

60. *Bitcoin Transaction Fees Explained*, *supra* note 51.

61. Allen, *supra* note 48.

62. Miller, *supra* note 40.

Bitcoin's inception, it was viewed as being the digital equivalent to cash, thus it was created not to require any personal information when creating a personal wallet or purchasing bitcoins.⁶³ This anonymity has drawn added scrutiny to Bitcoin because a number of criminals have adopted the currency as an alternative to conducting business in traditional money.⁶⁴

II. USES OF BITCOIN

At the time of writing this Comment, there is approximately 13.09 million bitcoins in circulation with a value of roughly \$580 per unit.⁶⁵ The total market value of the currency is currently estimated at slightly below \$7.6 billion.⁶⁶ With the success of Bitcoin, there is a growing concern that this tremendous amount of money is capable of instantly exchanging hands without any record of where it is, where it came from, or who is currently holding it.⁶⁷ The ultimate fear is that Bitcoin's anonymity allows criminals to use it to conduct their illegal activities outside of the watchful gaze of law enforcement.⁶⁸

A. *Illegal Uses of Bitcoin*

1. *Trafficking of Illegal Goods*

The primary argument for regulating or entirely banning Bitcoin stems from the idea that it serves as a catalyst for the sale of illegal goods and services online. This argument is based on the thought process that the complete anonymity that Bitcoin offers is an unfair advantage for criminals over law enforcement.

63. Allen, *supra* note 48.

64. Miller, *supra* note 40.

65. *Bitcoin Price Index*, COINDESK, <http://www.coindesk.com/price> (last visited Nov. 13, 2014).

66. *Id.*

67. Stephen Mihm, *Are Bitcoins the Criminal's Best Friend?*, BLOOMBERG VIEW (Nov. 18, 2013, 1:29 PM), <http://www.bloombergview.com/articles/2013-11-18/are-bitcoins-the-criminal-s-best-friend->.

68. Molly Oswaks, *Leaked FBI Report Details How Best to Get Away with Bitcoin Crime*, GIZMODO (May 10, 2012, 1:40 AM), <http://gizmodo.com/5909115/leaked-fbi-report-details-how-best-to-get-away-with-bitcoin-crime>.

It can be argued that the most startling aspect of the narcotics trade on the darknet is not actually the copious amount of drugs that are available for purchase, but actually the sheer number of individuals who are selling these drugs online. Many people might assume that the traditional street dealer has become tech savvy, and simply expanded his criminal enterprise to serve clients around the globe. In a majority of cases this is probably a correct assumption; however, as the story of Dr. Olivia Bolles demonstrates, the widely perceived anonymity of the darknet and Bitcoin has provided an incentive for more sophisticated members of society to enter this enterprise.

During the day, Dr. Bolles was a resident physician at Christiana Care Health System in Delaware.⁶⁹ She was a well-respected gynecologist with a number of academic publications to her name.⁷⁰ By night, she and her life partner, fellow gynecologist Alexandra Gold,⁷¹ operated a drug enterprise under the username “MDPro” on the popular darknet website Silk Road.⁷² The illicit products they were peddling were mostly controlled substances.⁷³ Their drug-dealing operation initially began on the Silk Road in March of 2013, but within a few months, they had accumulated an astounding 610 transactions.⁷⁴ Based on the quantity of tablets sold in their transactions, they were both a traditional street-level dealer, as well as a wholesaler.⁷⁵

Ultimately, the username combined with MDPro’s quick rise to fame within the Silk Road community caught the attention of

69. Criminal Complaint at 5, *United States v. Bolles*, No. 6:13-mj-1614 (M.D. Fla. Nov. 19, 2013) [hereinafter *Criminal Complaint*], available at <http://www.justice.gov/sites/default/files/usao-mdfl/legacy/2013/11/22/Bolles.pdf>.

70. Eric Markowitz, *How the DEA Took Down Silk Road’s Gynecologist Drug Dealer*, VOCATIV (Nov. 26, 2013, 2:07 PM), <http://www.vocativ.com/underworld/crime/story-dea-took-silk-roads-gynecologist-drug-dealer>.

71. *Judge: Silk Road Doctor Has Drug Abuse Problem*, DAILY REC. (Dec. 13, 2013), <http://thedailyrecord.com/2013/12/13/judge-silk-road-doctor-has-drug-abuse-problem>.

72. Criminal Complaint, *supra* note 69, at 3.

73. *Id.* at 17–18.

74. *Id.* at 15, 17.

75. See *id.* at 17–18 (enumerating drugs sold via the Silk Road). For certain substances, such as oxycodone, Bolles and Gold sold only a dozen tablets. *Id.* at 17. For other substances, however, they sold hundreds of tablets, *id.*, which suggests that their buyers may have been reselling the drugs.

Jared F. Gabbay, a seasoned DEA agent working as part of a task force responsible for conducting drug busts on the internet.⁷⁶ Like a traditional investigation into a drug ring, Gabbay's first move was to make purchases from MDPro. From there he used the return shipping address as the first major piece to start his investigation. He simply looked to see who initially registered the P.O. Box.⁷⁷ Fortunately, Dr. Bolles was an inept criminal who registered the P.O. Box using her real driver's license, vehicle registration, email address, and even paid for the P.O. Box with her personal credit card.⁷⁸ In late November, the DEA took Dr. Bolles and Alexandra Gold into custody for the illegal sale of narcotics.⁷⁹

While the story of Dr. Bolles shows that law enforcement's current resources are more than sufficient when it comes to tracking down the individual merchants on a Tor network, an even more remarkable story is how the federal authorities have evolved to combat the websites themselves. Initially, the prominent darknet site for buying narcotics was the Silk Road. Fortunately, blatant disregard for the rule of law caught up to the founder of the Silk Road when the FBI arrested him in a San Francisco public library on October 1, 2013.⁸⁰ The raid was the culmination of a two-year special task force codenamed "Marco Polo" spanning multiple continents.⁸¹ Federal agents say the entire operation forced them to investigate from "uncharted territory," and ultimately reverse how they perform a traditional investigation.⁸²

Ordinarily, an investigation begins by looking for probable cause against a specific suspect, and then utilizing search warrants to collect evidence to prove the charge(s). In the case of

76. *Id.* at 1, 15.

77. *Id.* at 30.

78. Criminal Complaint, *supra* note 69, at 19, 30.

79. Markowitz, *supra* note 70.

80. Tim Hume, *How FBI Caught Ross Ulbricht, Alleged Creator of Criminal Marketplace Silk Road*, CNN (Oct. 5, 2013, 11:10 AM), <http://www.cnn.com/2013/10/04/world/americas/silk-road-ross-ulbricht>.

81. Kim Zetter, *How the Feds Took Down the Silk Road Drug Wonderland*, WIRED (Nov. 18, 2013, 6:30 AM), <http://www.wired.com/threatlevel/2013/11/silk-road>.

82. *Id.*

Silk Road, law enforcement was forced to start the investigation by collecting evidence from the website itself.⁸³ This evidence was then used to identify the individuals responsible for operating the Silk Road.⁸⁴ The initial focus of the task force was to locate the top one percent of sellers, and then use the intelligence gained from the computers of the sellers to ultimately locate the system administrators.⁸⁵ The first big break in the case came when the agents arrested the first dealer from the site, Jacob Theodore George, on January 25, 2012.⁸⁶ The greatest victory of George's arrest was much more than just taking a dealer off the website; it was gaining access to his Silk Road account.⁸⁷ It was an intelligence dream, a virtual treasure trove filled with emails, shipping records, and contact information for other prominent members of the Silk Road community.⁸⁸ After the successful capture of George, the task force continued to pursue the top sellers on the website around the world in order to acquire more information on the site's origins.⁸⁹

In April 2012, an undercover agent made his first contact with Ross Ulbricht, the leader of the Silk Road, who went by the alias "Dread Pirate Roberts."⁹⁰ The agent posed as a dealer

83. *Id.*

84. *Id.*

85. *Id.*

86. Zetter, *supra* note 81.

87. *Id.*

88. *Id.*

89. In July 2012, the first international arrest by the task force occurred when Australian Paul Leslie Howard was arrested for importing and trafficking in cocaine, MDMA, and amphetamines. Steve Butcher, *Secret Website Harboured Drugs Smorgasbord, Court Hears*, AGE (Jan 31, 2013), <http://www.theage.com.au/victoria/secret-website-harboured-drugs-smorgasbord-court-hears-20130131-2dlw3.html>. The authorities first became suspicious of Howard when Australian Customs and Border Protection Service intercepted a number of packages containing illegal substances from the Netherlands and Germany. *Id.* The arrest of Howard produced a similar intelligence cache to that of George with two cellphones containing over twenty thousand messages collectively. *Id.*

90. Zetter, *supra* note 81. Dread Pirate Roberts is the name of a legendary ruthless pirate in *The Princess Bride*; in the story, it is exposed that there is no single Dread Pirate Roberts—it is simply a title and reputation passed down over time to a chosen successor. Andrea Peterson, *Silk Road's Alleged Founder Has Been Indicted as a Drug Kingpin*, WASH. POST (Feb. 5, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/02/05/silk-roads-alleged-founder-has-been-indicted-as-a-drug-kingpin>. Ulbricht chose this name because he believed that if he was caught, another person would

attempting to locate a buyer for a large quantity of cocaine.⁹¹ The trap was set when Ulbricht referred him to a system administrator, Curtis Clark Green, to aid him in finding a buyer.⁹² Ultimately, Green tried to buy the cocaine using a fake username, and the FBI raided his house on January 17, 2013.⁹³ After several bizarre twists in the story, including a murder-for-hire scheme in which Ulbricht hired an undercover agent to kill Green, the FBI determined it had enough evidence to bring successful charges against all the major system administrators.⁹⁴

The FBI claimed the raid was a monumental victory crushing a \$1.2 billion drug ring,⁹⁵ but many others concluded it was actually a minor victory because other websites would quickly absorb the majority of Silk Road's clientele⁹⁶. Thus far, a number of websites like Black Market Reloaded, and Silk Road 2.0

continue the work he started with the Silk Road. David Kushner, *Dead End on Silk Road: Internet Crime Kingpin Ross Ulbricht's Big Fall*, ROLLING STONE (Feb. 4, 2014), <http://www.rollingstone.com/culture/news/dead-end-on-silk-road-internet-crime-kingpin-ross-ulbrichts-big-fall-20140204>.

91. Ryan Mac & Runa Sandvik, *Meet the Silk Road Employee that the Dread Pirate Roberts Allegedly Tried to Murder*, FORBES (Nov. 8, 2013, 6:42 PM), <http://www.forbes.com/sites/ryanmac/2013/11/08/meet-the-silk-road-employee-that-the-dread-pirate-roberts-allegedly-tried-to-murder>.

92. *Id.*

93. *Id.*

94. See Mike Masnick, *FBI's Case Against Silk Road Boss Is a Fascinating Read*, TECHDIRT (Oct. 2, 2013, 11:10 AM), <https://www.techdirt.com/articles/20131002/10493324730/fbis-case-against-silk-road-boss-is-fascinating-read.shtml> (discussing the government's case and evidence against Ulbricht); see also Press Release, Fed. Bureau of Investigation, Manhattan U.S. Attorney Announces Charges Against Three Individuals in Virginia, Ireland, and Australia for Their Roles in Running the Silk Road Website (Dec. 20, 2013), available at <http://www.justice.gov/usao/nys/pressreleases/December13/JonesetalArrestsSilkRoad2PR.php>.

95. Complaint ¶¶ 16, 22(c), United States v. Ulbricht, No. 1:14-cr-00068-KBF, 2013 WL 5460023 (S.D.N.Y. Sept. 27, 2013). But see Eileen Ormsby, *About This \$1.2 Billion Crap*, ALL THINGS VICE (Oct. 18, 2013), <http://allthingsvice.com/2013/10/18/about-this-1-2-billion-crap> (disputing the FBI's claim that \$1.2 billion worth of drugs was sold on the Silk Road).

96. See, e.g., Nigel Phair, *Silk Road's Gone, but the Void's Already Been Filled*, CONVERSATION (Oct. 3, 2013, 3:27 AM), <http://theconversation.com/silk-roads-gone-but-the-voids-already-been-filled-18864> ("[T]he end of Silk Road certainly does not mean an end to the online sale of drugs . . . [H]ow other online illicit drug marketplaces fill the void and the impact to supply and drug prices will be interesting to follow.").

have attempted to capture the market-share, but have been unsuccessful.⁹⁷

Based on these recent events, the fear that Bitcoin gives criminals an unfair advantage through the anonymity it offers the user appears to be unwarranted. When examining in depth how the Marco Polo task force was able to collapse the Silk Road, it can be clearly demonstrated that the data trail that Bitcoin leaves is actually much easier for law enforcement to track than a traditional cash-only drug enterprise.⁹⁸ In order to pull off such a successful operation, law enforcement used many traditional tactics to fight organized crime in order to keep the investigation quiet from the public so that the leaders of the Silk Road would not be able to detect that they were under investigation.⁹⁹ While it can be argued it took a lengthy two-year investigation to ultimately bring down the Silk Road drug empire, the facts clearly show that today's law enforcement agencies appear to have a firm grasp on how to conduct investigations and subsequent prosecutions of large-scale illegal online activities. The successful investigations against Dr. Bolles and the Silk Road give the strong impression that law enforcement has successfully addressed these issues, and has begun to deploy these skills to halt the sale of other illegal goods.

97. Black Market Reloaded was the initial site former Silk Road users flocked to, but by mid-October 2013, the site had closed due to security concerns. Adrienne Jeffries, *Silk Road's Main Competitor Shuts Down Indefinitely*, VERGE (Oct. 17, 2013, 7:02 PM), <http://www.theverge.com/2013/10/17/4850256/silk-roads-main-competitor-shuts-down-indefinitely-black-market-reloaded>. Silk Road 2.0 was launched in early November 2013 with a new Dread Pirate Roberts, but by mid-December 2013, the site's operator feared prosecution and abandoned the website. Fran Berkman, *New Dread Pirate Roberts Abandons Ship on Silk Road 2.0*, MASHABLE (Dec. 29, 2013), <http://mashable.com/2013/12/29/silk-road-2-0-reopens>.

98. Avi Mizrahi, *Bitcoin Is Much Easier to Track and Regulate than Cash*, FIN. MAGNATES (Nov. 28, 2013, 11:57 AM), <http://www.financemagnates.com/cryptocurrency/trading/bitcoin-is-much-easier-to-track-and-regulate-than-cash/>.

99. Zetter, *supra* note 81. These tactics ranged from the most basic of sealing documents, and refraining from mentioning the name "Silk Road" in any public document, to delaying the filing of charges against many suspects until after they had apprehended Ulbricht. *Id.* The cleverest of the tactics was to charge many of the initial sellers in state court, instead of federal court. *Id.* By orchestrating the case in this manner, the authorities were able to conduct this massive investigation without most of the co-conspirators knowing anything was amiss until they were already in custody. *Id.*

2. Online Gambling

In 2011, the Department of Justice shut down three of the largest online gambling sites operating within the United States and charged eleven executives with violating federal anti-gambling laws.¹⁰⁰ Initially, many online professional gamblers decided to take the drastic step of relocating their families to foreign countries with more favorable views of online gambling.¹⁰¹ However, an estimated 8 to 10 million U.S. players, who refused to move, were forced to return to the table at their local casino, or look for another hobby.¹⁰²

With the recent rise in popularity of Bitcoin, many new online casinos allowed for the U.S. player to return to the online betting arena in droves by operating exclusively in the cryptocurrency.¹⁰³ The casinos allowed these players to return to the virtual table by capitalizing on one of the key characteristics of the currency, anonymity.¹⁰⁴ Thus far, it has proven to be a profitable business model, with one Bitcoin casino, SatoshiDice, boasting earnings over \$500,000 in the first six months of operation.¹⁰⁵

This usage of Bitcoin does not pose the same threat to society as other illegal uses because the federal government has relaxed

100. Nathaniel Popper & Tiffany Hsu, *FBI Shuts Down Internet Poker Sites*, L.A. TIMES (Apr. 15, 2011), <http://articles.latimes.com/2011/apr/15/business/la-fi-poker-busts-20110416>.

101. See *Destination Poker: Eight Things You Didn't Know About Moving to Play Online Poker*, POKERNEWS.COM (Nov. 9, 2012), <http://www.pokernews.com/news/2012/11/destination-poker-eight-things-you-didn-t-know-about-moving-13752.htm> (describing the clients of Poker Refugees, a company that was established after the shutdown of online poker sites in order to help online players move abroad to continue their careers).

102. See Popper & Hsu, *supra* note 100 (stating that “[a]n estimated 8 million to 10 million Americans play[ed] poker online for money” at the time the gambling websites were shut down).

103. Caroline Winter, *Bitcoin: Making Online Gambling Legal in the U.S.?*, BLOOMBERG BUS. (Jan. 3, 2013), <http://www.businessweek.com/articles/2013-01-03/bitcoin-making-online-gambling-legal-in-the-u-dot-s-dot>.

104. See *supra* Part I.B (discussing anonymity as a major appealing characteristic of Bitcoin).

105. Max Smolaks, *BitCoin Casino Earns over £50,000 a Month*, TECHWEEKEUROPE UK (Jan. 23, 2013, 5:33 PM), <http://www.techweekeurope.co.uk/workspace/bitcoin-casino-105204>.

its stance on policing internet gambling.¹⁰⁶ Three states have already responded to the federal government's reprieve by passing legislation that allows for some form of online gambling by their residents.¹⁰⁷ On April 30, 2013, Nevada became the first state to have a state-sanctioned online casino when UltimatePoker.com was launched.¹⁰⁸ Currently, the site only allows users with a Nevada address to play for real money,¹⁰⁹ but it certainly is a clear sign that the movement against the prohibition of online gambling is starting to gain serious traction.

3. *Money Laundering*

The anonymity of Bitcoin also has law enforcement concerned that the currency will be exploited by users with the primary goal of laundering funds. Initially, a number of studies analyzing the block chain of the Bitcoin ledger demonstrated that there were users who were placing a large amount of money into one account, and over the course of a few hours, to a few days, transferring the money in small increments through hundreds of "dummy" accounts before it was recombined.¹¹⁰ Through this process it was believed that the money was essentially scrubbed of any identifying markers showing where it originally came from and who it ultimately ended up with.¹¹¹ The most alarming aspect of this illegal practice is that third-party "mixing" services began operation almost overnight; utilizing advanced computer software, this process became completely automated.¹¹² Initially,

106. *E.g.*, Renee Montagne, *States, Federal Regulators Warm to Online Gambling*, NPR (Feb. 28, 2013, 4:00 AM), <http://www.npr.org/2013/02/28/173122964/states-feds-warm-to-online-gambling>.

107. Hannah Dreier, *Online Poker Is Back: Legal Website Launches in NV*, YAHOO! NEWS (Apr. 30, 2013, 11:23 AM), <http://news.yahoo.com/online-poker-back-legal-website-092030504.html>.

108. *Id.*

109. *Id.*

110. Sarah Gruber, Comment, *Trust, Identity, and Disclosure: Are Bitcoin Exchanges the Next Virtual Havens for Money Laundering and Tax Evasion?*, 32 QUINNIPIAC L. REV. 135, 177 (2013).

111. *Id.* at 176–77.

112. See Azmaan Onies, *Bitcoin Laundering*, BITCOIN (June 2, 2011), <http://cs.stanford.edu/people/eroberts/cs181/projects/2010-11/DigitalCurrencies/2011/06/02/bitcoin-laundering/index.html> (suggesting that mixing sites came into existence soon after the

this seemed like it would become a major problem for authorities to combat, but further studies revealed that the anonymity aspect of the currency appears to have been grossly exaggerated.¹¹³

The entire process of combatting Bitcoin being utilized as a tool of money laundering can be analogized to the traditional approach that law enforcement has deployed to catch bank robbers by giving them “marked” bills, bills with special serial numbers.¹¹⁴ When a perpetrator tendered these bills, they would undoubtedly end up in a bank, and the bank would notify law enforcement of where the cash was spent.¹¹⁵ This would provide law enforcement with a landscape of where the bank robbers were located, and a wealth of key information concerning their everyday habits.¹¹⁶

In the case of Bitcoin, the bitcoins themselves act to some extent as marked bills. Anyone can analyze the block chain and follow the trail of a singular bitcoin from its current standpoint all the way back to its creation. One study hypothesized that there are other vulnerabilities within the block chain that could be exploited to reveal identifying information.¹¹⁷ The key factor in this study was developing a trap using the many legitimate Bitcoin users and businesses who posted their public key online.¹¹⁸ This linkage of public keys to a specific individual or businesses essentially creates a wide web where all it would take is a single bitcoin belonging to a suspected money launderer to pass through one of these known addresses in order for identifying information to be compromised.¹¹⁹ Using the

Bitcoin); *Bitcoin Mixer*, BITLAUNDER.COM, <https://bitlaunder.com/bitcoin-mixer> (last visited Nov. 13, 2014) (stating one of its mixing services is automated).

113. See, e.g., Fergal Reid & Martin Harrigan, *An Analysis of Anonymity in the Bitcoin System*, in SECURITY & PRIVACY IN SOC. NETWORKS 197, 211 (Yaniv Altshuler et al. eds., 2013) (discussing traceability of Bitcoin transactions).

114. See *A Guide to Robbery Prevention and Response to Robbery*, PORTLAND POLICE BUREAU, <https://www.portlandoregon.gov/police/article/31555> (last visited Nov. 13, 2014) (describing how to prepare marked bills).

115. DEBORAH LAMM WEISEL, BANK ROBBERY 42 (2007), available at http://www.popcenter.org/problems/pdfs/bank_robbery.pdf.

116. *Id.*

117. Reid & Harrigan, *supra* note 113, at 210.

118. *Id.* at 211–12.

119. *Id.* at 214–18.

information from the donations to other Bitcoin users alone, it can reveal information about a user's interests, and the websites that they frequent.¹²⁰ In the case of purchases, it can provide much more beneficial identifying information, as the user would have to provide some kind of personal information in order to actually receive any real world goods that he purchased.¹²¹ The researchers successfully deployed this hypothesis to examine an alleged hacking of 25,000 bitcoins from an account, and were able to follow the trail of these bitcoins through over 34,000 dummy digital wallets.¹²² Along the way, they were able to identify certain links to hacker organizations which many suspect were behind the theft.¹²³

When analyzing this study, it is important to remember that it was conducted by two independent researchers on their personal computers. In the case of law enforcement agencies, they will have an exponential amount more of computing and manpower to dedicate towards tracking Bitcoin payments, and they will have access to a far more extensive web because they will be able to track all known public keys linked to real entities. It is also important to realize that thus far, this study is merely the first method actually tested and approved to use the Bitcoin protocol to derive identifying information; currently many users are testing out other avenues to exploit the block chain to derive more important information like IP addresses.¹²⁴

4. *Tax Evasion*

Currently, the most prominent issue surrounding Bitcoin and taxation is strikingly similar to the argument regarding money

120. *Id.* at 210–21.

121. *Id.* at 210–11.

122. Reid & Harrigan, *supra* note 113, at 218.

123. *Id.* at 214–18.

124. See Craig Reading, *Bitcoin Theft—The Top Ten Threats*, GENESYS GURU BLOG (June 27, 2011), <http://genesysguru.com/blog/blog/2011/06/17/bitcoin-theft-the-top-ten-threats> (discussing theoretically how one's private information could be obtained from the block chain); see also Ashwin Shahapurkar, *Hacking Bitcoin System—How Bitcoin Hacking Is Carried Out by Hackers?*, HACKER9, <http://www.hacker9.com/how-to-hack-bitcoin-system-wallet-password.html> (last updated Jan. 23, 2015) (discussing how a user's private key can be stolen).

laundering: that the anonymous nature of the currency promotes abuse by criminals. A driving force behind this belief is that Bitcoin, like the majority of virtual currencies, possesses two of the main characteristics of traditional tax havens.¹²⁵ First, Bitcoin does not exist in any established jurisdiction, making it extremely difficult to impose a tax upon.¹²⁶ Second, the lack of personal identifying information attached to this unit of currency presents a valuation concern when assessing tax liability because governments are unable to determine the exact value of an individual's assets.¹²⁷

In 2007, the IRS released a study that concluded there was some concern that virtual economies¹²⁸ could be utilized to evade tax liability, yet the IRS failed to take any action because at the time, the agency did not view these systems as a credible threat to revenue generation.¹²⁹ In 2009, the IRS modified its position slightly by creating a webpage for the purpose of educating taxpayers about the use of virtual currencies leading to the possibility of real world tax liability.¹³⁰ In addition, the IRS provided hyperlinks to guidance on real world activities the taxpayer could analogize to in order to assess its tax liability.¹³¹ In May 2013, the U.S. Government Accounting Office (GAO) published a report examining the tax compliance risks associated with virtual currencies and concluded that the current course of action employed by the IRS was efficient.¹³² Citing the immense amount of time and enormous cost involved in creating a federal taxation strategy, the GAO recommended that the IRS continue to deploy low-cost programs, such as the aforementioned webpage,

125. Omri Marian, *Are Cryptocurrencies Super Tax Havens?*, 112 MICH. L. REV. FIRST IMPRESSIONS 38, 42 (2013).

126. *Id.*

127. *Id.* at 42–43.

128. At the time, virtual economies existed primarily for the purpose of purchasing virtual goods or services. U.S. GOV'T ACCOUNTABILITY OFFICE, VIRTUAL ECONOMIES AND CURRENCIES: ADDITIONAL IRS GUIDANCE COULD REDUCE TAX COMPLIANCE RISKS 3–5 (2013), available at <http://www.gao.gov/assets/660/654620.pdf>.

129. *Id.* at 15.

130. *Id.*

131. *Id.*

132. *Id.* at 16–17.

to combat the threat virtual currencies pose.¹³³ Although not explicitly stated, this conclusion may be viewed as an admission by the GAO that virtual currencies do not currently pose a serious threat as a tool to evade tax liability.

There are two major points that lend credence to the GAO's position. First, there is already a sufficient statutory deterrent in effect. If discovered, a tax evader has a high probability of being convicted and facing severe penalties.¹³⁴ Second, the concern that virtual currencies can serve as a tool of tax evasion completely overlooks the mindset of the tax evader. This viewpoint focuses on the anonymity characteristic of Bitcoin, and blatantly disregards the most important aspect of any tax evasion scheme, which is protecting the assets that have been illegally accumulated.¹³⁵ Even if a tax evader were not deterred by the statutorily defined penalties, the notion that one could go through all of this trouble evading tax liability only to lose twenty to thirty percent of the assets over the course of a few hours due to the volatile nature of Bitcoin is an additional built-in deterrent that has not been adequately discussed.¹³⁶

5. *Funding Terrorism*

Akin to the concerns of Bitcoin as it pertains to money laundering and tax evasion, critics of Bitcoin believe the currency will be used to circumvent counterterrorism efforts.¹³⁷ The

133. *Id.* at 17.

134. Michael Louis Minns, *What Is Tax Evasion?*, MINNS L. FIRM (Oct. 14, 2014), <http://www.minnslaw.com/tax-evasion>. Historically, the IRS boasts a ninety percent criminal tax conviction rate. INTERNAL REVENUE SERV., FISCAL YEAR 2013 NATIONAL OPERATIONS ANNUAL BUSINESS REPORT 2 (2014), available at <http://www.irs.gov/pub/foia/ig/ci/REPORT-fy2013-ci-annual-report-02-14-2014.pdf>.

135. See Juan-Carlos Molero & Francesc Pujol, *Walking Inside the Potential Tax Evader's Mind*, (Universidad de Navarra, Working Paper No. 01/05, 2005) (developing a theoretical model to study the psyche of a tax evader); see also *Tax Havens (Secrecy Jurisdictions)*, JUST 1 WORLD, <http://www.just1world.org/offshore-tax-havens.htm> (last visited Nov. 13, 2014) (discussing how tax evaders have been able to hide assets without being detected).

136. See *infra* Part II.B.3 (discussing the fallout on the price of a bitcoin as a result of the bankruptcy of Mt. Gox).

137. Terence Check, *Shadow Currency: How Bitcoin Can Finance Terrorism*, WORLD OUTLINE (May 5, 2013), <http://theworldoutline.com/2013/05/shadow-currency-how-bitcoin-can-finance-terrorism>.

argument often focuses on the most well-known counterterrorism operation ever undertaken, Neptune Spear, which culminated in the death of Osama bin Laden.¹³⁸ The entire operation was a result of the CIA locating and tracking bin Laden's personal courier, Ibrahim Saeed Ahmed.¹³⁹ It is highly probable that this apprehension stems from the idea that digital currencies could impede these types of operations because it requires fewer operatives to move large sums of money.

Neptune Spear utilized the typical protocol for locating and neutralizing a terrorist cell. Conducting a counterterrorism operation is similar to peeling an onion; you locate the individuals on the fringe of the operation, and use their intel to slowly peel back the layers of the operation to its core leader.¹⁴⁰ One of the most undervalued tools deployed by counterterrorist agencies at the beginning of this process is the wealth of information they obtained through programs deployed to track suspicious monetary payments.¹⁴¹ By following the money, counterterrorist units are able to locate individuals within this subversive network who have valuable information and are willing to cooperate, though usually after a little coercion.¹⁴² By removing the need for a

138. Melissa Bell, *Operation Neptune Spear: Code Name for Killing Osama Bin Laden*, WASH. POST (May 5, 2011, 3:53 PM), http://www.washingtonpost.com/blogs/blog-post/post/operation-neptune-spear-code-name-for-killing-osama-bin-laden/2011/05/05/AFjnvJ0F_blog.html.

139. Elise Labbot & Tim Lister, *Courier Who Led U.S. to Osama Bin Laden's Hideout Identified*, CNN (May 3, 2011, 9:19 AM), <http://www.cnn.com/2011/WORLD/asiapcf/05/03/bin.laden.courier/index.html>; see Kathy Gannon, *Ibrahim Saeed Ahmed, Osama Bin Laden's Associate and Trusted Confidante, Identified: NATO*, HUFFINGTON POST (Aug. 2, 2011, 5:12 AM), http://www.huffingtonpost.com/2011/06/02/ibrahim-saeed-ahmed-osama-bin-ladens-associat_n_870285.html (naming Ibrahim Saeed Ahmed as bin Laden's courier).

140. See WHITE HOUSE, NATIONAL STRATEGY FOR COMBATTING TERRORISM 11–12 (2006), http://www.whitehouse.gov/sites/default/files/counterterrorism_strategy.pdf (discussing how to systemically disrupt a terrorist organization by targeting its various levels).

141. See generally U.S. DEPT OF THE TREASURY, *Terrorist Finance Tracking Program*, <http://www.treasury.gov/resource-center/terrorist-illicit-finance/Terrorist-Finance-Tracking/Pages/tftp.aspx> (last visited Nov. 13, 2014) (describing the Terrorist Finance Tracking Program used to track terrorist money flows).

142. See Check, *supra* note 137 (“Government agents are able to detect terrorists through logistical networks (Usama bin was found through his courier). Counterterrorism, for better or worse, succeeds when it has *human* networks to exploit.

network of illegal money transmitters and couriers, the fear is that terrorist operations will now consist of only essential personnel, ultimately, hampering governments' ability to track down terrorist networks and prevent a possible attack.¹⁴³

Although at first glance, the fear that Bitcoin could be used as a tool to finance terrorist activity seems to be a significant concern, this perspective overlooks how governments have already evolved to combat a similar type of transfer of funds, hawala. Literally meaning "transfer" in Arabic, hawala is essentially a black market version of Western Union employed all across the world to transfer funds.¹⁴⁴ The United States has countered this system through strong-arming certain countries to establish and enforce laws with severe penalties for those who perform hawala transfers.¹⁴⁵ In actuality, Bitcoin presents an advantage over

Terrorists need accomplices, handlers, recruits, and suppliers. Sooner or later, one of the individuals in this vast network becomes frightened or disillusioned with the cause and becomes a government informant.").

143. See *id.* (explaining how Bitcoin can remove the possibility of detection of terrorists by removing the logistical network of people that typically lead to detection).

144. See Matthew Elias, *Bitcoin: Tempering the Digital Ring of Gyges or Implausible Pecuniary Privacy*, INT'L TELECOMMUNICATIONS L. 27–28 (2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1937769 (discussing the hawala process of sending and receiving money). The process begins with an individual approaching a hawala operator, which is usually operating an ordinary business, and gives the operator something of value and a destination for the funds to be transferred. See *id.* at 27 (describing the hawala process from the first individual to the operator). The hawala operator issues the consumer an authentication code, and notifies the nearest hawala operator to the designated region to give funds to the individual who presents the authentication code. See David C. Faith, *The Hawala System*, 2 GLOBAL SEC. STUD. 23, 24 (2011) (describing the hawala process from the operator to the recipient).

145. See BUREAU OF INT'L NARCOTICS & LAW ENFORCEMENT AFFAIRS, INTERNATIONAL NARCOTICS CONTROL STRATEGY REPORT: VOLUME II: MONEY LAUNDERING AND FINANCIAL CRIMES 402 (2004), <http://www.state.gov/documents/organization/30194.pdf> (discussing an example of the United States working in close concert with the UAE to address hawala transfers following the September 11th attacks). In 2002 the United Arab Emirates (UAE) was pressured to pass laws on this matter because some of the funds used to finance the September 11th terrorist attacks were funneled through the UAE. See *id.* (discussing the United States' close attention to UAE laws after the September 11th terrorist attacks). In addition, similar laws have been pushed through in Pakistan and India. See *Pakistan: Friend or Foe of the United States*, ANTI-DEFAMATION LEAGUE (Nov. 11, 2003), http://archive.adl.org/terror/tu/tu_1103_pakistan.html#.VE-rscmGj2Q (discussing Pakistan's efforts against hawala); Niti

hawala in combatting terrorism because it leaves a potential digital trail in the block chain.¹⁴⁶ Hawala's criminal appeal is dependent on the fact that governments rarely obtained any transaction records,¹⁴⁷ however, these agencies can deploy the same statistical analysis tools discussed in money laundering that successfully revealed the identities of Bitcoin account holders.¹⁴⁸

B. Legal Uses of Bitcoin

From its inception, Bitcoin was viewed as a digital currency that allowed users to purchase real world goods and services without the hassle of involving their bank or searching for their credit card. The currency's recent success demonstrates that Bitcoin is well on its way to fulfilling this goal, and it has proven itself to be useful to other financial endeavors. Today, Bitcoin is utilized by individuals to support charities, save for retirement, and send money to relatives. In a remarkable feat, the ingenuity of Bitcoin itself has been surpassed by its users ever evolving application of the cryptocurrency.

1. Traditional Goods and Services

In late October, the first Bitcoin ATM was opened in a coffee shop in Vancouver, Canada.¹⁴⁹ In its first week of operation, the ATM performed over 10,000 independent transactions.¹⁵⁰ Most

Dixit, *Hawala: Indian Law and the FATF Recommendations*, ANTI-FRAUD NETWORK (Nov. 1, 2008), <http://antifraudnetwork.com/2008/11/hawala-indian-law-and-the-fatf-recommendations> (discussing India's efforts against hawala).

146. See *supra* Part 1.B (discussing the block chain's record of all Bitcoin transactions).

147. See Bill Rounds, *Hawala System for Hawala Transactions Via a Hawaladar*, HOWTOVANISH (Sept. 24, 2009), <http://www.howtovanish.com/2009/09/modern-hawala/> (discussing the private nature and lack of reporting requirements for hawala transactions, which creates criminal appeal).

148. See Reid & Harrigan, *supra* note 113, at 15–16 (discussing vulnerabilities in the block chain that can be exploited to reveal identifying information about users); *supra* Part II.A.3 (discussing processes for detecting identifying information in Bitcoin transactions that can be used to analyze money laundering transactions).

149. Kurt Wagner, *World's First Bitcoin ATM Opens in Vancouver, Canada*, MASHABLE (Oct. 30, 2013), <http://mashable.com/2013/10/30/bitcoin-atm-2>.

150. Jon M. Chang, *First Bitcoin ATM Installed in Vancouver Coffee Shop*, ABC

surprising was the fact that over one-third of the ATM users were first-time Bitcoin buyers.¹⁵¹ This is not just an isolated enterprise. All across the world, businesses have begun offering a wide range of goods and services that may be purchased with bitcoins. For instance, you can order a pizza online from your local Domino's Pizza,¹⁵² book a room at a Howard Johnson hotel,¹⁵³ buy a ticket to a Sacramento Kings game,¹⁵⁴ or even play a game of billiards,¹⁵⁵ all funded with bitcoins. Across the globe, entire urban areas are accepting the cryptocurrency as payment for a range of goods and services. In Kreuzberg, a borough of Berlin, exists the highest concentration of businesses accepting Bitcoin on the planet.¹⁵⁶ The real world purchasing power of this currency is constantly expanding because every day more and more businesses are authorizing Bitcoin as a means of payment.¹⁵⁷

NEWS (Oct. 30, 2013), <http://abcnews.go.com/Technology/bitcoin-atm-conducts-10000-worth-transactions-day/story?id=20730762>.

151. *Id.*

152. See Mike Flacy, *Bitcoins Can Now Be Used to Pay for Domino's Pizza*, DIGITAL TRENDS (Feb. 11, 2013), <http://www.digitaltrends.com/web/virtual-bitcoins-can-now-be-traded-for-dominos-pizza> (discussing a new startup company, PizzaforCoins, that enables customers to pay for Domino's pizza with Bitcoin).

153. See Dylan Love, *10 Real Things You Can Buy with Bitcoin*, BUS. INSIDER (Apr. 10, 2013, 9:05 PM), <http://www.businessinsider.com/what-can-i-buy-with-bitcoins-2013-4> (discussing items and services that can be purchased using Bitcoin).

154. Ingrid Lunden, *Sacramento Kings Fans Can Now Buy Tickets and Merchandise with Bitcoin via BitPay*, TECHCRUNCH (Jan. 16, 2014), <http://techcrunch.com/2014/01/16/sacramento-kings-fans-can-now-buy-tickets-and-merchandise-with-bitcoin-via-a-new-bitpay-partnership>.

155. See Ryan Whitwam, *Pool Table Uses Raspberry Pi to Let You Buy a Game with Bitcoin*, GEEK.COM (Sept. 8, 2013, 10:01 AM), <http://www.geek.com/games/pool-table-uses-raspberry-pi-to-let-you-buy-a-game-with-bitcoin-1569734> (discussing Liberty Games' Bitcoin-friendly pool table, which uses a built-in computer to communicate with the Bitcoin network in order to complete the transaction).

156. Kate Connolly & Guy Grandjean, *Bitcoin: The Berlin Streets Where You Can Shop with Virtual Money*, GUARDIAN (Apr. 26, 2013, 6:08 AM), <http://www.theguardian.com/technology/2013/apr/26/bitcoins-gain-currency-in-berlin>.

157. See Dan Roseman, *The Gyft of Bitcoin Purchasing Power*, LET'S TALK BITCOIN! (Sept. 16, 2013), <http://letstalkbitcoin.com/the-gyft-of-bitcoin-purchasing-power/> (discussing Gyft.com's immense expansion of Bitcoin's purchasing power that was done by allowing users to purchase a variety of gift cards using Bitcoin); *What Can You Buy With Bitcoin?*, COINDESK, <http://www.coindesk.com/information/what-can-you-buy-with-bitcoins> (last updated Feb. 17, 2015) (listing online retailers, such as Overstock.com, and physical

2. Donations

Bitcoin first achieved global recognition as a direct result of private citizens sending donations to keep the highly controversial website WikiLeaks operational.¹⁵⁸ As a consequence of governments preventing donors from utilizing the more traditional methods of online checks and bank-issued credit cards to send donations, Bitcoin became the preeminent “work-around” for WikiLeaks’s benefactors.¹⁵⁹ After witnessing the influx in funding WikiLeaks received, a number of charities have revamped their websites to accept Bitcoin.¹⁶⁰ Possibly the most ironic use of Bitcoin as a means of making donations is that the Federal Election Commission is considering allowing Bitcoin as an acceptable form of campaign donations.¹⁶¹

3. Investment

Over the course of the first eleven months of 2013, Bitcoin experienced a 6,000% increase in value and became the primary topic of discussion in investment circles.¹⁶² The initial draw to

retailers, such as REEDS Jewelers, that directly accept Bitcoin as a form of payment).

158. See Jon Matonis, *WikiLeaks Bypasses Financial Blockade with Bitcoin*, FORBES (Aug. 20, 2012, 9:47 AM), <http://www.forbes.com/sites/jonmatonis/2012/08/20/wikileaks-bypasses-financial-blockade-with-bitcoin> (discussing how WikiLeaks was still able to receive Bitcoin donations when other payment systems blocked donations to it following a release of U.S. diplomatic cables).

159. See *id.* (discussing the politically pressured block of donations to WikiLeaks by major payment systems, and how Bitcoin donations were used to overcome this blockade).

160. Danielle Kurtzleben, *Group Seeks to Solicit Charitable Donations in Bitcoins*, U.S. NEWS & WORLD REP. (July 30, 2013, 4:48 PM), <http://www.usnews.com/news/articles/2013/07/30/group-seeks-to-solicit-charitable-donations-in-bitcoins> (discussing the mainstream increase in the acceptance of Bitcoin donations by some charities and nonprofits and describing the BitGive Foundation, which was launched in order to solicit donations for charities using Bitcoin).

161. See Benjamin Goad, *FEC: No Bitcoins in Federal Campaigns*, HILL (Nov. 21, 2013, 2:05 PM), <http://thehill.com/blogs/regwatch/technology/191096-fec-no-bitcoins-in-federal-campaigns> (discussing a proposal before the FEC to allow Bitcoin donations in political campaigns). The Federal Election Commission had a 3-3 split on party lines. *Id.* The three Republican members voted “yes,” while the three Democratic members elected to investigate the issue further. *Id.* (explaining that in voting on the proposal, the Democratic members of the FEC had concerns about the potential for anonymity, while the Republican members appeared ready to endorse the proposal).

162. See John Phillips, *Here’s What Should Bolster Bitcoin in 2014*, CNBC (Jan. 1, 2014, 11:21 PM), <http://www.cnbc.com/id/101304916> (noting that although Bitcoin’s value

the currency was the fact that it was potentially an excellent hedge against inflation due to its finite nature.¹⁶³ The real surge in value occurred once speculators became involved. Motivated by the potential value Bitcoin could attain if it were ever to achieve widespread acceptance, many financial advisors began to advise their clients to dedicate a small portion of their portfolio towards investing in the cryptocurrency.¹⁶⁴

Throughout this historic rise, there were many critics in the financial industry that remained unrelenting in their view that Bitcoin represented nothing more than a digital Tulip Craze.¹⁶⁵ In early December 2013, aggressive regulation against the cryptocurrency, mainly by the Chinese government, started a downward decline of the value of Bitcoin, and it lost approximately 50% of its value within one week.¹⁶⁶ However, after a month of fluctuating prices, Bitcoin's value stabilized,

increased nearly 6000% over the course of 2013, questions still remain about its potential as a viable currency, as mainstream awareness continues to grow).

163. See Henry Blodget, *Bitcoin Could Go to \$1 Million*, BUS. INSIDER (Nov. 8, 2013, 10:20 AM), <http://www.businessinsider.com/bitcoin-price-2013-11> (explaining that a major appeal to Bitcoin investment is the theoretical possibility that the Bitcoin's price could rise to 100,000% or more, which lies in stark contrast to a maximum loss of 100%); Carl O'Donnell, *Ready to Invest in a Bitcoin Hedge Fund?*, INVESTMENTNEWS (May 13, 2014, 12:36 PM), <http://www.investmentnews.com/article/20140513/FREE/140519978/ready-to-invest-in-a-bitcoin-hedge-fund> (describing Bitcoin as finite and immune to inflation).

164. See Jamie Dlugosch, *Bitcoin Will Double in Value in 2014*, INVESTOR RES. INST. (Dec. 6, 2013), <http://www.investorresearchinstitute.com/bitcoin-will-double-in-value-in-2014> (suggesting that the trajectory for Bitcoin price is high, but investors should invest only a small portion of their portfolio as the price will be quite volatile).

165. See Liu Xinyong, *Commentary: Bitcoin Mania Worse than Tulip Craze*, XINHUANET (Mar. 1, 2014), http://news.xinhuanet.com/english/business/2014-03/01/c_126206894.htm (comparing the Bitcoin mania to the Dutch tulip bubble that peaked before a suddenly collapse). Tulip mania is a characterization of the first extensively recorded case of a massive economic bubble. See *Tulipmania: How a Country Went Totally Nuts for Flower Bulbs*, BUS. INSIDER (Sept. 16, 2014, 7:06 PM), <http://www.businessinsider.com/tulipmania-bubble-story-2014-9?op=1> (describing Tulip Mania as the first massive speculative bubble). In the 1630's, people were trading their houses and a year's worth of salary for a single tulip bulb. DONALD RAPP, BUBBLES, BOOMS, AND BUSTS: THE RISE AND FALL OF FINANCIAL ASSETS, at xii (2d ed. 2015) (explaining that in 1636, the value of a single tulip was "equivalent to a few years' average salary").

166. See *Bitcoin Market Price (USD)*, BLOCKCHAIN, <https://blockchain.info/charts/market-price?timespan=all> (last visited Nov. 13, 2014) (showing the fluctuation in market price of Bitcoin in December 2013); see *infra* Part III.A (discussing the Chinese regulations imposed against virtual currencies).

and even began to regain some of its lost market cap.¹⁶⁷ Unfortunately, this resurgence in value was a short-lived gain.

The month of February brought more ominous news, which many speculated would render the cryptocurrency worthless. The Japanese firm Mt. Gox, which had long been considered the flagship of Bitcoin exchanges,¹⁶⁸ announced it was insolvent and declared bankruptcy after admitting they had been the victim of Bitcoin hackers, to the tune of \$500 million.¹⁶⁹ In the hours following the revelation of this international scandal, Bitcoin's price plummeted to \$405 and appeared poised to continue to free fall, perhaps even to zero.¹⁷⁰

4. Remittance

One of the most overlooked issues concerning the overall impact of Bitcoin is the strides it has made in redefining the remittance market.¹⁷¹ Remittance plays a vital role in the global

167. See *Bitcoin Market Price (USD)*, *supra* note 166 (showing Bitcoin price regaining some of its lost market cap after decline in December 2013).

168. See Emily Spaven, *Bitstamp Bitcoin Trading Volume Overtakes Leading Exchange Mt. Gox for First Time*, COINDESK (July 24, 2013, 8:16 PM), <http://www.coindesk.com/bitstamp-bitcoin-trading-volume-overtakes-mt-gox-for-first-time> (stating that Mt. Gox had long been the leader of the Bitcoin market). Until the middle of 2013, Mt. Gox handled over fifty percent of the worldwide Bitcoin trading volume. See *id.* (stating that as of 2011, Mt. Gox handled over 80% of Bitcoin trade, and 52% in 2013).

169. Alan Milner, *Bankrupt Bitcoin Exchange Mt. Gox Now Admits It Was Hacked*, GUARDIAN LIBERTY VOICE (Feb. 28, 2014), <http://guardianlv.com/2014/02/bankrupt-bitcoin-exchange-mt-gox-now-admits-it-was-hacked>; see Michelle Jones, *Bitcoin on the Ropes as Mt. Gox Files for Bankruptcy*, VALUEWALK (Feb. 28, 2014, 10:32 AM), <http://www.valuewalk.com/2014/02/bitcoin-mt-gox-files-for-bankruptcy> (discussing Mt. Gox's bankruptcy filing); *Bitcoin Market Price (USD)*, *supra* note 166 (showing market price at the end of February 2014 to be approximately \$550, which would equal about \$500 million lost by Mt. Gox).

170. Devon Kristine Zuegel, *What Happened at MtGox? The Collapse of the World's Largest Bitcoin Exchange*, STAN. REV. (Apr. 23, 2014), <http://stanfordreview.org/article/what-happened-at-mtgox-the-collapse-of-the-worlds-largest-bitcoin-exchange>.

171. See Alex William, *Bitcoin to Disrupt Remittance Market*, BITCOIN VOX (Aug. 18, 2014, 8:15 AM), <http://bitcoinvox.com/article/946/bitcoin-to-disrupt-remittance-market> (describing Bitcoin as raising a possible revolution in the global remittance market). Remittance is the transfer of money by a foreign worker to an individual in his or her home country. See *Sending Money Home: Worldwide Remittance Flows to Developing Countries*, INT'L FUND FOR AGRIC. DEV., <http://www.ifad.org/remittances/maps/index.htm> (last visited Nov. 13, 2014) (describing remittances as the portion of migrant workers' earnings sent home to their families).

economy because it represents one of the largest sources of capital influx to developing countries.¹⁷² In 2011, this global market was estimated to be worth over \$400 billion, with the expectation that it would continue to experience tremendous growth rate of over ten percent annually.¹⁷³ Conversely, the primary pitfall of the current structure is that a typical transaction costs almost nine percent in fees.¹⁷⁴

Recognizing the enormous cost burden, many start-up companies are utilizing Bitcoin as a key component in their remittance strategies due to its extremely low transaction costs.¹⁷⁵ For instance, BitPesa is targeting Africa to grow its company, because it has some of the highest remittance transaction costs in the world at almost twelve percent.¹⁷⁶ BitPesa's first goal is to break into the massive Kenyan remittance market, which is currently valued at approximately \$1.2 billion.¹⁷⁷ Its business model is based on several key objectives, which aim to provide service to the most severely impoverished. The first objective is to achieve widespread implementation of a special digital wallet written exclusively for mobile phones that pre-date smartphones.¹⁷⁸ In addition, the company will establish a

172. See *Sending Money Home: Worldwide Remittance Flows to Developing Countries*, *supra* note 173 (describing remittances as constituting an important flow of foreign currency to most developing countries).

173. See DILIP RATHA ET AL., WORLD BANK, *MIGRATION AND REMITTANCE FLOWS: RECENT TRENDS AND OUTLOOK, 2013–2016*, at 3 (2013) (showing world remittance flows in 2011 as \$506 billion with a growth rate of 11.5%).

174. *Id.* at 6.

175. See *supra* Part I.B (discussing Bitcoin's low transaction costs as one of the primary characteristics which have propelled its popularity).

176. See Richard Boase, *BitPesa Uses Bitcoin to Slash Kenyan Remittance Costs*, COINDESK (Nov. 28, 2013, 6:45 PM), <http://www.coindesk.com/bitpesa-uses-bitcoin-slash-kenyan-remittance-costs> (discussing high remittance transaction costs in Africa and BitPesa's plan to use Bitcoin in trying to solve this problem).

177. See *id.* (discussing BitPesa's plan to use Bitcoin in servicing Kenya's \$1.17 billion annual remittance market).

178. See *id.* (describing BitPesa's goal to service Kenya's remittance market with Bitcoin by implementing a Bitcoin digital wallet); Emily Spaven, *Kipochi Launches M-Pesa Integrated Bitcoin Wallet in Africa*, COINDESK (July 9, 2013, 5:51 PM), <http://www.coindesk.com/kipochi-launches-m-pesa-integrated-bitcoin-wallet-in-africa> (discussing Bitcoin wallet service Kipochi, which has launched a product that allows remittance in Africa through bitcoins and is capable of converting remitted bitcoins to Kenyan currency, that works on most mobile phones). Surprisingly, Kenya has a robust mobile phone

number of local shops around the country that allow consumers to exchange their bitcoins for local currencies.¹⁷⁹ BitPesa believes it can successfully implement this business plan while only charging a three percent transaction fee.¹⁸⁰ It is important to remember that BitPesa represents a single company in one remittance market, and several other companies are undertaking similar ventures around the world.¹⁸¹ Overall, reducing the cost of remittance in these countries is paramount because millions of families depend on these payments as their only means of survival.¹⁸²

III. INTERNATIONAL RESPONSE

Until recently, there was a major concern that the United States was lagging behind other countries in addressing the Bitcoin phenomenon.¹⁸³ Fortunately, an early February report from the Law Library of Congress quelled these concerns. The

market with almost seventy percent of the country having a mobile phone subscription. See COMM. COMMISSION KENYA, QUARTERLY SECTOR STATISTICS REPORT: 2D QUARTER OCTOBER–DECEMBER 2011/2012, at 6 (2012) (“Mobile penetration was recorded as 71.3 per cent during the period up from 67.2 per cent recorded during the previous period.”).

179. Boase, *supra* note 176.

180. See Eric Ombok, *Bitcoin Service Targets Kenya Remittances with Cut-Rate Fees*, BLOOMBERG BUS. (Nov. 28, 2013, 9:36 AM), <http://www.bloomberg.com/news/articles/2013-11-28/bitcoin-service-targets-kenya-remittances-with-cut-rate-fees-1> (describing BitPesa’s plan to use Bitcoin to cut transaction costs for Kenyans by charging only 3% on overseas transfers).

181. See Daniel Cawrey, *Coincove Uses Bitcoin to Make Remittance Easier in Latin America*, COINDESK (Dec. 18, 2013, 4:10 PM), <http://www.coindesk.com/coincove-bitcoin-remittance-latin-america> (discussing a remittance business that is using Bitcoin to break into Argentina’s heavily regulated remittance market); Jon Southurst, *New Bitcoin Wallet App Targets Philippines Remittance Market*, COINDESK (Oct. 13, 2014, 10:24 AM), <http://www.coindesk.com/new-bitcoin-wallet-app-targets-philippines-remittance-market> (describing Coins.ph, an exchange company targeting the remittance market in the Philippines with a new Bitcoin digital wallet).

182. See WORLD BANK, GENERAL PRINCIPLES FOR INTERNATIONAL REMITTANCE SERVICES 1 (2007), available at <http://www.bis.org/cpmi/publ/d76.pdf> (describing remittances in developing economies as important to cover day-to-day living expenses and provide a cushion against emergencies).

183. See Eric Markowitz, *Bitcoin: More Regulation, More Opportunity?*, INC.COM (Aug. 13, 2013), <http://www.inc.com/eric-markowitz/as-bitcoin-grows-regulators-need-to-step-up.html> (discussing U.S. government agencies’ reluctance to address the regulation of Bitcoin).

comprehensive study examined the regulatory responses of forty nations to Bitcoin and concluded that only a few countries had officially addressed the currency from a regulatory standpoint.¹⁸⁴ Following the publication, several members of Congress hastily renewed discussion of the subject in the hopes that the United States could establish itself as an international leader on the matter of virtual currencies.¹⁸⁵ While the regulatory debate continues to take place at the Capitol, other world powers like Canada, China, and Germany have already implemented some form of a government-wide regulatory strategy. It is paramount that Congress and other high-ranking government officials closely monitor these countries' policies when designing the United States' regulatory strategy on virtual currencies.

A. China

The evolution of the Chinese government's reaction to Bitcoin offers an insightful analysis into the difficulties countries face when developing a regulatory framework for a cryptocurrency. Initially, it appeared that China was going to establish itself as the largest supporter of Bitcoin by allowing it to exist unburdened by regulation. In May 2013, the government unofficially gave its blessing to the currency when the Chinese government sponsored a documentary that aired on the state owned television broadcaster, CCTV, to inform the public of Bitcoin.¹⁸⁶ After this unprecedented public showing of government support, Bitcoin experienced a huge boost in popularity within the country; in fact, more Bitcoin clients were

184. See LAW LIBRARY OF CONG., *supra* note 11, at 1 (describing a forty-nation survey finding only a few countries with specific regulations applicable to Bitcoin use).

185. See Press Release, U.S. Senator Tom Carper, New Report Outlines Treatment and Regulation of Bitcoin Around the World (Feb. 3, 2014) (discussing hopes for the United States to continue development of regulation of Bitcoin).

186. See Alfred Romann, *Asia Weekly: China Leading the Bitcoin Charge*, CHINA DAILY ASIA (Nov. 22, 2013, 8:01 AM), http://www.chinadailyasia.com/business/2013-11/22/content_15100696.html (describing CCTV's airing of a Bitcoin documentary in May 2013 as a tacit endorsement of the cryptocurrency by the Chinese government); Sophie Song, *Bitcoin Value Falls 20% Following China's Ban of Trading by Financial Institutions*, INT'L BUS. TIMES (Dec. 5, 2013, 11:01 AM), <http://www.ibtimes.com/bitcoin-value-falls-20-following-chinas-ban-trading-financial-institutions-1496874> (describing Bitcoin's soaring popularity in China following a CCTV documentary concerning the currency).

downloaded in China over the last seven months of 2013 than in any other country.¹⁸⁷

The Bitcoin economy in China is different than most other countries due to the fact that the relatively successful consumer market has been overshadowed by the massive investment and mining markets.¹⁸⁸ The immense size of the Chinese Bitcoin investment market is best demonstrated by the historic rise of over 500% in global value Bitcoin experienced solely in the month of November 2013.¹⁸⁹ This unprecedented rapid rise in value has been attributed to a large number of high net-worth individuals who invested millions of dollars into Bitcoin because they viewed Bitcoin as a more profitable venture than either the oversaturated property market or the stagnant stock market.¹⁹⁰ Out of fear that Bitcoin could disrupt currency controls, the Chinese government concluded that a regulatory strategy needed to be implemented.¹⁹¹

In early December, the Peoples' Bank of China released a report discussing the regulatory framework that was necessary concerning Bitcoin.¹⁹² The major takeaways from the report were that China would not officially endorse the currency as a legitimate form of payment and banks along with payment companies were prohibited from accepting the virtual currency.¹⁹³

187. See *Bitcoin Client Download Statistics by Country*, SOURCEFORGE, <http://sourceforge.net/projects/bitcoin/files/stats/map?dates=2013-01-01+to+2014-01-01> (last visited Nov. 13, 2014) (showing total downloads in China as ranking second only to downloads in the United States).

188. John Phillips, *Could China Make or Break Bitcoin?*, CNBC (Nov. 15, 2013, 3:53 AM), <http://www.cnbc.com/id/101200996>.

189. *Bitcoin Market Price (USD)*, *supra* note 166.

190. Phillips, *supra* note 188. Records indicate that China accounted for more than one-third of global Bitcoin trading volume during November 2013. Chao Deng, *Bitcoin Exchanges Scramble in China*, WALL ST. J. (Jan. 8, 2014, 1:00 PM), <http://www.wsj.com/articles/SB10001424052702303754404579308023769366100>.

191. Simon Rabinovitch, *China Bans New Bitcoin Deposits*, FIN. TIMES (Dec. 18, 2013, 7:04 AM), <http://www.ft.com/cms/s/0/6707013a-67af-11e3-8ada-00144feabdc0.html>.

192. Vitalik Buterin, *China Releases First Regulatory Report on Bitcoin Businesses*, BITCOIN MAG. (Dec. 5, 2013), <http://bitcoinmagazine.com/8744/china-releases-first-regulatory-report-on-bitcoin-businesses>. The largest currency control the government was worried about being violated was the rule that nationals are not allowed to carry more than \$50,000 out of China each year. Phillips, *supra* note 188.

193. Kashmir Hill, *Bitcoin in China: The Fall-Out from Chinese Government*

In addition, the Chinese government announced that online Bitcoin exchanges were now required to file trading records, as well as adopt measures that would actively mitigate money-laundering risks associated with the virtual currency.¹⁹⁴ The government made it clear that citizens could still buy and sell Bitcoin, but the shockwave from this announcement resulted in Bitcoin's value plummeting nearly twenty percent in a single day.¹⁹⁵ As expected, many Chinese companies that had previously accepted Bitcoin announced they would no longer accept the currency as a means of payment.¹⁹⁶ In early January, the Chinese government's anti-Bitcoin stance finally reached the Bitcoin miners when China's largest online marketplace, Taobao, announced it was no longer selling any hardware, software, or tutorials that could be used in the mining of cryptocurrencies.¹⁹⁷

In the wake of the new crippling government regulations, the Chinese Bitcoin exchanges are certainly struggling.¹⁹⁸ In order to survive, one Chinese Bitcoin exchange, BTC China, has reinstated its initial policy of charging a fee on every transaction.¹⁹⁹ It is a widely held belief throughout the Bitcoin community that the primary reason behind the historic November 2013 rise in prices and subsequent government crackdown, is the fact that many of these exchanges had previously ceased charging these transactions fees, and there was no sufficient deterrent to prevent speculation.²⁰⁰ As with any legitimate

Banning Real World Use, FORBES (Dec. 6, 2013, 2:24 PM), <http://www.forbes.com/sites/kashmirhill/2013/12/06/bitcoin-in-china-the-fall-out-from-chinese-government-banning-real-world-use>.

194. *Id.*

195. Song, *supra* note 186.

196. See, e.g., Deng, *supra* note 190; Daniel Cawrey, *Baidu and China Telecom Stop Accepting Bitcoin, Price Slumps Again*, COINDESK (Dec. 6, 2013, 11:35 PM), <http://www.coindesk.com/baidu-stops-bitcoin-price-slumps-again>; Scott Thiel, Heng Loong Cheong & Joel Davis, *Mixed Feelings: China Censures Bitcoin While Hong Kong Embraces It*, DLA PIPER (July 4, 2014), <http://www.dlapiper.com/pl/china/insights/publications/2014/07/china-censures-bitcoin-while-hong-kong-embraces-it>.

197. Alistair Charlton, *China's Largest Online Marketplace Bans Sale of Bitcoin and Mining Equipment*, INT'L BUS. TIMES (Jan. 8, 2014, 11:12 AM), <http://www.ibtimes.co.uk/chinas-largest-online-marketplace-bans-sale-bitcoin-mining-equipment-1431465>.

198. Deng, *supra* note 190.

199. *Id.*

200. See, e.g., *id.* (stating that an exchange deliberately reinstated transaction fees

financial institution, a system of checks and balances is necessary.²⁰¹ Through the reimplementations of these trading fees, there is hope that it will stabilize the Bitcoin market and allow the cryptocurrency to escape the ire of the government.²⁰²

B. Germany

Fueled by both robust consumer and investment markets, Germany represents the country with the most progressive opinion of Bitcoin. In July 2013, Germany became the first country to officially legitimize Bitcoin when the popular exchange Bitcoin.de announced a partnership with Fidor Bank AG.²⁰³ By virtue of this partnership, Bitcoin.de became the first Bitcoin exchange to formally demonstrate full compliance with German financial market regulations.²⁰⁴ Just one month after the announcement of this partnership, Germany became the first government to endorse Bitcoin as private money when the German Ministry of Finance announced that the government recognized it as a “unit of account.”²⁰⁵ While this recognition does not bestow upon Bitcoin the same level of legitimacy afforded to a nationally-backed currency, it does sanction the use of it in private transactions.²⁰⁶ The only conceivable limitation placed on the currency occurs in the commercial realm, where a company must acquire permission from the Federal Financial Supervision Authority (BaFin) in order to use Bitcoin as a means of payment in a commercial transaction.²⁰⁷

to curb speculative trading activity).

201. *Wanted: Better Checks and Balances in the Financial Industry*, EY, <http://www.ey.com/GL/en/Issues/Business-environment/building-a-better-working-world-perspectives-wanted-better-checks-and-balances-in-the-financial-industry> (last visited Nov. 13, 2014).

202. Deng, *supra* note 190.

203. Emily Spaven, *Germany's Bitcoin.de and Fidor Bank AG Form Partnership*, COINDESK (July 11, 2013, 6:01 PM), <http://www.coindesk.com/germanys-bitcoin-de-and-fidor-bank-ag-form-partnership>.

204. *Id.*

205. Charles Arthur, *Bitcoin Now 'Unit of Account' in Germany*, GUARDIAN (Aug. 19, 2013, 6:01 PM), <http://www.theguardian.com/technology/2013/aug/19/bitcoin-unit-of-account-germany>.

206. *Id.*

207. *Id.*; *Trading in Bitcoins*, BAFIN (June 17, 2014), <http://www.bafin.de/>

The landmark decision to classify Bitcoin as a “unit of account” had two key implications. First, it established a much-needed regulatory framework for Bitcoin exchanges, which substantially raised the regulatory standards.²⁰⁸ By classifying Bitcoin as a unit of account, the German government elevated the exchanges to financial services companies, which are required to meet strict criteria in order to operate.²⁰⁹ These criteria serve as a form of consumer protection by ensuring that the companies have a substantial amount of initial capital, that the company’s management has fulfilled certain prescribed qualifications, that a detailed business plan has been filed with the government, and that all transaction reports are submitted to BaFin on a regular basis.²¹⁰

While these protections were designed to encourage investment through the guarantee of consumer protection, perhaps the largest benefit will be realized through the wealth of information now available to the government. Through this regulatory framework, the exchanges will now be required to implement anti-money laundering programs.²¹¹ This declaration also brought the exchanges under the oversight of a special department of BaFin, the Money-Laundering Prevention Department.²¹² This group does not supervise any single sector of the German economy, rather it works with the banking,

SharedDocs/Veroeffentlichungen/EN/Jahresbericht/2013/jb_2013_II_9_2_trading_in_bitcoins.html.

208. Emily Spaven, *Germany Officially Recognises Bitcoin as “Private Money”*, COINDESK (Aug. 19, 2013, 11:38 AM), <http://www.coindesk.com/germany-official-recognises-bitcoin-as-private-money>.

209. *Id.*

210. *Id.*; Saroj Kar, *Germany Acceptance of Bitcoin Sets Standard for Other Countries*, SILICONANGLE, (Aug. 20, 2013), <http://siliconangle.com/blog/2013/08/20/germany-acceptance-of-bitcoin-sets-standard-for-other-countries>.

211. *Bitcoin Is Now an Official Currency in Germany*, BABYPIPS.COM (Aug. 28, 2013, 2:08 AM), <http://www.babypips.com/blogs/espionage/bitcoin-is-now-an-official-currency-in-germany.html>.

212. Jens Münzer, *Bitcoins: Supervisory Assessment and Risks to Users*, BAFIN (Feb. 17, 2014), http://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Fachartikel/2014/fa_bj_1401_bitcoins_en.html; see *Cross-Sectoral Issues*, BAFIN, http://www.bafin.de/EN/BaFin/FunctionsHistory/CrossSectoralIssues/crosssectoralissues_artikel.html (last visited Nov. 14, 2014) (stating that the Money-Laundering Prevention department supervises transactions that engage in funds transfer).

finance, and insurance sectors to ensure that there are common standards, and that companies are in compliance with these standards.²¹³ As a result, the anti-money laundering programs require the Bitcoin exchanges to identify their customers, obtain information about the purpose of the business relationship, monitor their client accounts for suspicious activity, and implement a document retention program that ensures all information on accounts are retained for a reasonable amount of time after their creation.²¹⁴ By virtue of this ruling, Germany has also established itself as the leader in prescribing a regulatory framework for Bitcoin.

The second major impact of the decision was that it answered the taxation questions surrounding Bitcoin's classification and applicable taxation rate. When a bitcoin is exchanged for fully recognized currency, it is classified as an asset and taxed at the flat capital gains rate.²¹⁵ However, if the bitcoins were held for more than a year before they were sold, then the transaction will be declared a nontaxable private sale.²¹⁶ In the case of Bitcoin miners, it was determined that since they are essentially creating value, the applicable taxation strategy is the normal income tax rate.²¹⁷ However, on the issue of taxing consumers for purchases when bitcoins are used as a means of payment, the Federal Ministry of Finance has voiced concerns that there is currently no income tax effect.²¹⁸

C. Canada

Canada provides arguably the most intriguing case study of a national regulatory policy concerning Bitcoin. Initially, the

213. *Cross-Sectoral Issues*, *supra* note 212.

214. Joachim Kaetzler & Sabrina Streicher, *Money-laundering Prevention in the Non-Financial Sector*, INT'L L. OFF. (Apr. 10, 2012), <http://www.internationallawoffice.com/newsletters/detail.aspx?g=d222c66a-be55-4246-9fc6-5848bd092c3f>.

215. Greg Thomas, *Can Germany Really Tax Bitcoin?*, MOTHERBOARD (Aug. 26, 2013, 10:40 AM), <http://motherboard.vice.com/read/can-germany-really-tax-bitcoin>.

216. *Id.*

217. David Gilson, *German Government Relieves Capital Gains Tax on Bitcoin Positions*, COINDESK (June 27, 2013, 4:37 PM), <http://www.coindesk.com/german-government-relieves-capital-gains-tax-on-bitcoin-positions>.

218. LAW LIBRARY OF CONG., *supra* note 11, at 10.

country was labeled the “wild west” of Bitcoin because of its refusal to implement regulations concerning the currency.²¹⁹ In mid-January 2014, the Canadian government reinforced this moniker by adopting the official position that the currency was not recognized as legal tender, but was merely another type of payment system.²²⁰ These systems are allowed to exist with little government oversight as long as they contain certain consumer protection characteristics.²²¹

While the government refused to address Bitcoin in any substantial regulatory capacity, the Canadian Bitcoin exchanges became a tremendous success.²²² This success was the result of a vacuum of regulation that was brought about because of a legal loophole found within the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (PCMLTFA), where money was specifically defined as the “currency of another country.”²²³ Due to the precise wording of the legislation, the organization in charge of monitoring money systems, the Financial Transactions and Reports Analysis Center of Canada (FINTRAC), concluded in October it had no legal authority to impose the restrictions found within this act or even require the exchanges to obtain a license.²²⁴ As a result of this announcement, there have been

219. Matthew Burgoyne, *Bitcoin: The World's Most Popular Virtual Currency*, MCLEOD L. LLP, http://www.mcleod-law.com/sites/default/files/pdfs/McLeod%20Law_News%20Bulletin_Bitcoin_September%202013.pdf (last visited Nov. 13, 2014).

220. David George-Cosh, *Canada Says Bitcoin Isn't Legal Tender*, WALL ST. J. (Jan. 16, 2014, 4:26 PM), <http://blogs.wsj.com/canadarealtime/2014/01/16/canada-says-bitcoin-isnt-legal-tender>. An example of these types of payment systems is the Large Value Transfer System (LVTS) that allows for the same-day transfer of large amounts of funds. JAMES F. DINGLE, *PLANNING AN EVOLUTION: THE STORY OF THE CANADIAN PAYMENTS ASSOCIATION, 1980–2002*, at 42 (2003).

221. George-Cosh, *supra* note 220 (“Nevertheless, these payment systems should be designed and operated to meet the needs of Canadians which would include convenience and ease of use, price, reliability, safety, and effective redress mechanisms.” (quoting Alexandre Deslongchamps, spokesman for the Bank of Canada)).

222. See HOW TO BUY BITCOINS IN CANADA, <http://howtobuybitcoins.info/ca.html> (last visited Nov. 14, 2014) (aiding consumers in purchasing bitcoins by demonstrating all the possible ways they can fund their Bitcoin virtual wallets in Canada).

223. *Due to a Loophole in Canadian Law, Bitcoin Businesses Aren't Really Regulated*, BUS. IN CAN. (Oct. 28, 2013), <https://businessincanada.com/2013/10/28/due-to-a-loophole-in-canadian-law-bitcoin-businesses-arent-really-regulated>.

224. Danny Bradbury, *Vault of Satoshi Expands Canadian Bitcoin Exchange Market*, COINDESK (Oct. 12, 2013, 11:00 AM), <http://www.coindesk.com/vault-satoshi->

a number of successful Canadian-based Bitcoin exchanges commencing operations within the past year.²²⁵

The Canadian Revenue Agency (CRA) noticed these exchanges rapidly being formed and responded by issuing guidance requiring bitcoins to be held as a speculative asset to be taxed as a commodity.²²⁶ This declaration stipulates that when a bitcoin is exchanged for Canadian currency, the bitcoin is to be treated as a commodity, and typical tax consequences for transactions disposing of a commodity will apply.²²⁷ The determination of the applicable taxation strategy depends largely on facts surrounding the seller of the bitcoin.²²⁸ In the case of an individual who purchased bitcoins and allowed them to appreciate in value for a period of time before selling them, they would likely have this transaction taxed at the capital gains rate.²²⁹ On the other hand, a user who is in the business of buying and selling bitcoins on a daily basis, much like a day trader, would have any gains taxed as ordinary income.²³⁰

Among the general population, the virtual currency shows signs of being a potential success in the consumer market. In October 2013, a Vancouver coffee shop became home to the world's first Bitcoin ATM, and due to the amount of revenue generated by this machine, three additional ATMs were installed in other cities within the country in early 2014.²³¹ While Canadian consumers currently do not have a widespread cross-country market to purchase goods and services, the Bitcoin

expands-canadian-bitcoin-exchange-market.

225. See, e.g., *id.* (discussing the launch of a new Canadian Bitcoin exchange); see also Rob Lewis, *Canadian Bitcoin Startup Raises \$500K in Seed Money*, TECHVIBES (Dec. 20, 2013), <http://www.techvibes.com/blog/canadian-bitcoin-startup-raises-500k-in-seed-funding-2013-12-20> (describing digital currency exchange network builder Bex.io).

226. *What You Should Know About Digital Currency*, CAN. REVENUE AGENCY, <http://www.cra-arc.gc.ca/nwsrm/fctshts/2013/m11/fs131105-eng.html> (last updated Dec. 12, 2014).

227. *Id.*

228. *Canada Will Tax Your Bitcoins*, POKERATI (Nov. 7, 2013, 9:59 AM), <http://pokerati.com/2013/11/canada-will-tax-your-bitcoins>.

229. *Id.*

230. *Id.*

231. Joon Ian Wong, *Bitcoin ATM Installations Surge in Canada*, COINDESK (Jan. 19, 2014, 3:06 PM), <http://www.coindesk.com/bitcoin-atm-installations-surge-canada>.

consumer market appears to be gaining traction.²³² In Vancouver, a domino effect was observed culminating in a number of local businesses accepting Bitcoin as a means of payment after observing the increase in sales the coffee shop experienced as a result of accepting the cryptocurrency.²³³

On the issue of taxation, the CRA's guidance expressed the position that when a consumer uses bitcoin to purchase goods or services, the transaction would be taxed as part of their income as if it was a barter exchange.²³⁴ This requires the individual to keep a number of records in order to be in full compliance. A user must have records verifying all the goods and services he purchased with bitcoin throughout the year.²³⁵ Users can easily meet this requirement by obtaining the required information from the transaction history of their digital wallet. The most stringent, and perhaps most difficult to fulfill, requirement is determining the market value in Canadian Dollars of the good or service purchased.²³⁶ Not surprisingly, the guidance document from the CRA was met with immediate opposition from the Bitcoin community on the tedious nature of this policy.²³⁷ The critics of this taxation policy call for a strategy that reduces the complexity by requiring the CRA to publish a reasonable value of Bitcoin each day.²³⁸ To do so would simplify the burden placed on citizens to achieve full compliance with applicable tax laws by making it possible for the consumer to determine an accurate

232. See *Salaries Paid in Bitcoin a Growing Trend in Canada*, CBC NEWS (Sept. 1, 2014), <http://www.cbc.ca/news/business/salaries-paid-in-bitcoin-a-growing-trend-in-canada-1.2752441>; see also George-Cosh, *supra* note 220.

233. Michael Cayley, *Bitcoin Could Turn Canada's Cities into 'Hubs of Digital Currency Startups'*, ITBUSINESS.CA (Nov. 3, 2013), <http://www.itbusiness.ca/blog/bitcoin-could-turn-canadas-cities-into-hubs-of-digital-currency-startups/44543>.

234. *What You Should Know About Digital Currency*, *supra* note 226.

235. *Barter and Bitcoin Transactions Can Result in Taxable Income and GST/HST Payable*, TAXTIPS.CA, <http://www.taxtips.ca/personaltax/barter.htm> (last updated March 24, 2015) (recommending tax payers should get invoices in order to record the taxable Bitcoin transactions).

236. See, e.g., CAN. CUSTOMS & REVENUE AGENCY, INTERPRETATION BULLETIN NUMBER IT-490 (1982), available at <http://www.cra-arc.gc.ca/E/pub/tp/it490/it490-e.txt> (explaining how to determine the market value of goods or services).

237. See, e.g., *Canada Will Tax Your Bitcoins*, *supra* note 228 (stating that CRA is overcomplicating the matter).

238. *Id.*

valuation by simply looking at the statements of their e-wallet to determine amount and value of the bitcoins at the time of purchase and transfer.

While the CRA's guidance has answered the taxation questions surrounding the uses of Bitcoin as both a currency and a commodity, one question has not been addressed, which is regarding how Bitcoin miners should be taxed. To date, the CRA has yet to issue any guidance on how Bitcoin miners should treat the bitcoins they created, from a taxation standpoint.²³⁹ This has provided a small boost to the Canadian Bitcoin mining industry that currently views the income generated as a form of tax-free income.²⁴⁰

In mid-February 2014, the regulatory landscape surrounding Bitcoin appeared poised to change when the Canadian government announced, as part of its 2014 budget, that it was pursuing legislation that would bring Bitcoin exchanges under the jurisdiction of the PCMLTFA by recognizing these businesses as reporting entities.²⁴¹ As a result of being covered under this act, the Bitcoin exchanges would be required to satisfy similar requirements imposed on the German exchanges, such as registering with FINTRAC, obtaining personal information about their customers, monitoring their customers' account activity, and reporting any suspicious activity.²⁴² The rationale behind this legislation was publicized as being intended to address the concerns that Bitcoin and other digital currencies had emerged as credible threats to the efforts of Canadian agencies to combat money laundering and terrorist financing.²⁴³ However, the

239. Richard Boase, *Canada Revenue Agency Says Tax Rules Apply to Bitcoin*, COINDESK (Nov. 9, 2013, 10:56 AM), <http://www.coindesk.com/canada-revenue-agency-tax-rules-apply-bitcoin>.

240. Brent Matsalla, *Bitcoin Virtual Mining in the Real World*, GUARDIAN LIBERTY VOICE (Dec. 23, 2013), <http://guardianlv.com/2013/12/bitcoin-virtual-mining-in-the-real-world>.

241. Christine Duhaime, *Canada to Regulate Digital Currencies and Online Casinos Under Its Anti-Money Laundering and Counter-Terrorist Financing Laws*, DUHAIME L. (Feb. 11, 2014), <http://www.duhaimelaw.com/2014/02/11/canada-to-regulate-bitcoin-and-other-digital-currencies-under-its-anti-money-laundering-and-counter-terrorist-financing-laws>.

242. *Id.*

243. *Id.*

motives of the government have been arduously questioned, likely due to the fact that the announcement of the legislation change occurred on the heels of an announcement that the Canadian government was planning to launch its own version of a digital currency, the MintChip, by the end of 2014.²⁴⁴ In development for more than two years by the Royal Canadian Mint, the payment process of MintChip is identical to that of Bitcoin, meaning that it is an instantaneous and direct transfer of value.²⁴⁵ The public's first glimpse of MintChip was in January 2014 at a convention demonstrating the variety of ways a consumer could potentially make a purchase.²⁴⁶ At this convention, Canadian Mint officials spoke highly of Bitcoin for bringing awareness to the concept of digital currency, and highlighting the importance of allowing consumers choices between a variety of digital currencies.²⁴⁷ This sudden change in view on digital currencies by the Canadian government has at least one legal scholar concerned that the Canadian government could be opening itself up to possible antitrust legal action.²⁴⁸

The Canadian government has not yet released any information detailing how MintChip contains any distinguishing features to significantly differentiate it from Bitcoin, nor has it sufficiently demonstrated that MintChip is not susceptible to being utilized for the same nefarious purposes as other digital

244. *Royal Canadian Mint's Digital Currency System MintChip Passes New Milestone*, MACLEAN'S (Jan. 13, 2014), <http://www.macleans.ca/general/royal-canadian-mints-digital-currency-system-mintchip-passes-new-milestone>; see also Christine Duhaime, *Canada's Government-Issued Bitcoin, the Mintchip*, DUHAIME'S ANTI-MONEY LAUNDERING L. CAN. (Feb. 18, 2014), <http://www.antimoneylaunderinglaw.com/2014/02/the-looniebit-canadas-bitcoin-sort-of.html> (discussing the regulations imposed on Bitcoin and not on MintChip).

245. David George-Cosh, *Canada Puts Halt to MintChip Plans; Could Sell Digital Currency Program*, WALL ST. J. (Apr. 4, 2014, 3:09 PM), <http://blogs.wsj.com/canadarealtime/2014/04/04/canada-puts-halt-to-mintchip-plans-could-sell-digital-currency-program>; Duhaime, *supra* note 244.

246. Robin Arnfield, *Royal Canadian Mint Conducts Crypto-Currency Trial*, MOBILE PAYMENTS TODAY (Feb. 7, 2014), <http://www.mobilepaymentstoday.com/articles/royal-canadian-mint-conducts-crypto-currency-trial>.

247. *Id.*; Alexandra Woodfin, *Montreal Economic Institute: Bitcoin Adds Value, but Legal Realm Lags*, CANAL (Jan. 27, 2014, 8:00 AM), <http://blog.panampost.com/alexandra-woodfin/2014/01/27/montreal-economic-institute-bitcoin-adds-value-legal-realm-lags>.

248. Duhaime, *supra* note 244.

currencies.²⁴⁹ Throughout the Canadian Bitcoin community, there appears to be a valid concern that these pending legislation changes were merely a ruse by the Canadian government to ensure the success of the first government-backed digital currency by attempting to eliminate potential competitors.²⁵⁰

IV. U.S. REGULATION

A. Current Regulation

In March 2013, the first official U.S. position on Bitcoin was declared when the Treasury Department's Financial Crimes Enforcement Network (FinCEN) issued guidance on digital currencies.²⁵¹ The largest implication of this ruling was a direct result of the U.S. government categorizing business enterprises that transfer bitcoins between third parties as money transmitters.²⁵² This new classification would now burden these companies with significant compliance costs to such an extent it was essentially a regulatory death sentence.²⁵³ In order for these exchanges to legally operate, it would require an expenditure of approximately seven million dollars to file for a money transmitter license from FinCEN, forty-seven states, and the District of Columbia.²⁵⁴ As a result of this FinCEN guidance, a majority of the U.S. Bitcoin exchange traffic was outsourced to other countries.²⁵⁵

249. *Id.*

250. *Id.*; Arnfield, *supra* note 246.

251. DEPT OF THE TREASURY FIN. CRIMES ENFORCEMENT NETWORK, *supra* note 12, at 1.

252. *Id.* at 3.

253. See Marco Santori, *Bitcoin Law: Compliance and Avoidance Strategies*, COINDESK (Dec. 12, 2013, 12:00 PM), <http://www.coindesk.com/bitcoin-law-money-transmission-compliance-avoidance> (discussing how the expense of the compliance costs could hinder these companies).

254. Bailey Reutzel, *In Money Transmitter Licensing, Is It Better to Own—or to Rent?*, PAYMENTSSOURCE (Aug. 22, 2013, 4:00 AM), <http://www.paymentsource.com/news/in-money-transmitter-licensing-is-it-better-to-own-or-to-rent-3015198-1.html>; see also Brian Nelson, *Surety Bond FAQ's for Cryptocurrency Exchangers and Administrators*, MSB TALK (May 23, 2013), <http://msbtalk.wordpress.com/2013/05/23/surety-bond-faqs-for-bitcoin-exchangers-and-administrators>.

255. See Jon Matonis, *Fincen's New Regulations Are Choking Bitcoin Entrepreneurs*, AM. BANKER (Apr. 25, 2013, 10:00 AM), <http://www.americanbanker.com/bankthink/>

B. Proposed Reform of Regulation

The first step of allowing the return of Bitcoin exchanges is for FinCEN to rescind its previous guidance requiring a money transmitter license. The U.S. government's concern that Bitcoin could potentially be used as a currency for criminals to conceal their illegal activities from law enforcement was valid, but the ruling ultimately was a disaster. With all the United States' exchanges closing their doors, U.S. citizens merely went offshore for their Bitcoin transmission services. This migration to foreign Bitcoin exchanges resulted in the loss of a potentially valuable intelligence source. Perhaps the best course of action for the United States would be to reverse the existing legislation to allow Bitcoin exchanges to feasibly operate in the United States and follow in the lead of Germany by recognizing Bitcoin as a special type of currency: a community currency.

A community currency is a byproduct of the bartering system that allows certain communities to simplify the bartering process by establishing their own version of money.²⁵⁶ The statutory authority supporting the concept of a community currency is Article 1 of the Constitution, which limits states from coining their own money or producing bills of credit.²⁵⁷ In *Mayor of Nashville v. Ray*, the Supreme Court drew a proverbial line in the sand by holding that the prohibition contained within this section only extended to local municipalities, due to their ties to the state government.²⁵⁸ As this case demonstrates, Bitcoin

fincen-regulations-choking-bitcoin-entrepreneurs-1058606-1.html (discussing the closure of three U.S.-based Bitcoin exchanges within one month of FinCEN's guidance). *But see* Rob Wile, *The World's Largest Bitcoin Fund Just Took a Preliminary Step to Creating a US Bitcoin Exchange*, BUS. INSIDER (Feb. 7, 2014, 4:39 PM), <http://www.businessinsider.com/bitcoin-investment-trust-market-maker-2014-2> (announcing the possible return of a U.S. Bitcoin exchange).

256. Vivian Doumpa, *Community Currencies and Bartering Models Take Root in Greek Cities*, POP-UP CITY (May 14, 2013), <http://popupcity.net/community-currencies-and-bartering-models-take-root-in-greek-cities>.

257. U.S. CONST. art. I, § 10, cl. 1.

258. *Mayor & Recorder of City of Nashville v. Ray*, 86 U.S. 468, 476 (1873) ("The making of [promissory notes, bills of exchange, and other commercial paper] was originally confined to merchants. But its great convenience was the means of extending its use, first to all individuals and afterwards to private corporations But if city and town officials should have the power thus to bind their constituencies, it is easy to see

should be considered an acceptable form of currency since it was created by a private entity.²⁵⁹

Although community currencies have a relatively short history within the United States, they have been accepted as recently as the early 1990's.²⁶⁰ The largest hurdle for classifying Bitcoin within this group is the fact that there are some stark contrasts when comparing Bitcoin to conventional community currencies.²⁶¹ Primarily, community currencies have traditionally been confined to specific geographical regions, whereas Bitcoin is a global currency.²⁶² Furthermore, previous community currencies were issued exclusively as paper denominations, while Bitcoin is entirely digital.²⁶³ While these differences could potentially make it difficult to classify Bitcoin as a community currency, there are strong arguments that point toward these differences constituting minor modifications of the rapid evolution of global e-commerce.

In the case of Bitcoin, the fundamental community aspect that is the core basis of a community currency is still retained because there are currently a limited number of businesses willing to accept Bitcoin as a means of payment. With regard to the second characteristic, allowing Bitcoin to exist in the digital realm instead of requiring it be transferred to a physical form is merely another consequence of the societal and economic shift that has occurred over the previous twenty years. Since the invention of the internet, there has been an undeniable increase in dependence upon technology as a medium for communication by businesses and individuals alike.²⁶⁴ As a result, Bitcoin

what abuses might, and probably would, ensue. . . . The purpose and object of a municipal corporation do not ordinarily require the exercise of any such power. They are not trading corporations and ought not to become such.”).

259. See *supra* Part I.B (discussing the origin of the cryptocurrency).

260. See Nikolei M. Kaplanov, Comment, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation*, 25 LOY. CONSUMER L. REV. 111, 142–43 (2012) (discussing the use of community currencies such as Ithaca HOURS to boost the local economy during the 1991 recession).

261. *Id.* at 164–65.

262. *Id.* at 165.

263. *Id.*

264. See Andrew Beaujon, *Pew: Half of Americans Get News Digitally, Topping Newspapers, Radio*, POYNTER (Sept. 27, 2012, 2:05 PM), <http://www.poynter.org/latest-news/mediawire/189819/pew-tv-viewing-habit-grays-as-digital-news-consumption-tops->

represents another step in this ever-evolving shift from the physical to the digital. The recognition of Bitcoin as a community currency would result in both a financial and intelligence gathering benefit once the Bitcoin exchanges are re-established stateside.

1. Law Enforcement Advantages

Through the classification of Bitcoin as a community currency, the necessary intelligence to prevent Bitcoin from being used as a tool to launder money or conduct other criminal activity can still be gathered from the Bitcoin exchanges through a careful application of the Banking Secrecy Act of 1970 in conjunction with the PATRIOT Act.²⁶⁵ The first step would require the recognition of these businesses as financial institutions. The definition of financial institution is found within the Banking Secrecy Act of 1970.²⁶⁶ Within this statute, Congress not only provided an extensive list of twenty-four entities to be specifically classified as financial institutions, but they also empowered the Secretary of the Treasury with the necessary authority to include any similar businesses that were determined to be outside of the scope of the enumerated list.²⁶⁷ Although the list includes many businesses that are analogous to a variety of Bitcoin businesses,

print-radio (discussing how today more people receive their news from online sources rather than print sources); *see also* Ariel Adams, *Luxury Consumers Value Products, Not Buying Experiences*, FORBES (May 23, 2013, 9:03 AM), <http://www.forbes.com/sites/arieladams/2013/05/23/luxury-consumers-value-products-not-buying-experiences> (reporting that luxury consumers prefer to shop online); Susan Tardanico, *Is Social Media Sabotaging Real Communication?*, FORBES (Apr. 30, 2012, 8:52 AM), <http://www.forbes.com/sites/susantardanico/2012/04/30/is-social-media-sabotaging-real-communication> (discussing the prevalence of interaction through electronic communication rather than any other form).

265. Peter J. Henning, *More Bitcoin Regulation Is Inevitable*, DEALBOOK (Feb. 3, 2014, 10:56 AM), <http://dealbook.nytimes.com/2014/02/03/more-bitcoin-regulation-is-inevitable>; Alexander Aganin et al., *The Puzzle and Promise of Bitcoin*, AM. BAR ASS'N (Mar. 20, 2014), <http://apps.americanbar.org/litigation/committees/securities/articles/winter2014-0314-the-puzzle-and-promise-of-bitcoin.html>.

266. 31 U.S.C. § 5312 (2012).

267. *Id.* § 5312(a)(2)(y). (“[A]ny business or agency which engages in any activity which the Secretary of the Treasury determines, by regulation, to be an activity which is similar to, related to, or a substitute for any activity in which any business described in this paragraph is authorized to engage.”).

the Treasury will likely argue that the Bitcoin exchanges are comparable to a money transmitter²⁶⁸ or a currency exchange.²⁶⁹

By virtue of the Secretary recognizing Bitcoin exchanges as financial institutions, many of the intelligence gathering sections of the PATRIOT Act would become applicable. For instance, Section 326 requires financial institutions to implement some form of the Know Your Customer program.²⁷⁰ The basic requirements of this program stipulate that a financial institution must obtain basic identifying information from its customers such as legal name, date of birth, address, and identification number.²⁷¹ In addition, Section 352 requires financial institutions to develop internal anti-money laundering procedures, policies, and the necessary controls designed to detect and prevent money laundering.²⁷²

Law enforcement is allowed access to this information through Section 314(a), which “requires the Secretary of the Treasury to adopt regulations to encourage regulatory and law enforcement authorities to share with financial institutions information regarding individuals, entities, and organizations engaged in or reasonably suspected, based on credible evidence, of engaging in terrorist acts or money laundering.”²⁷³ FinCEN’s regulations under Section 314(a) enable federal, state, local, and foreign (i.e., European Union) law enforcement agencies to reach out to more than 43,000 points of contact at over 22,000 financial institutions to access accounts and transactions of persons that

268. *Id.* § 5312(a)(2)(r).

269. *Id.* § 5312(a)(2)(j).

270. Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT Act) Act of 2001, Pub. L. No. 107-56, § 326, 115 Stat. 272, 318 (codified at 31 U.S.C. § 5318 (2012)); Mark E. Plotkin & B.J. Sanford, *The Customer’s View of “Know Your Customer”—Section 326 of the USA PATRIOT Act*, 1 BLOOMBERG CORP. L.J. 670, 670, 672 (2007).

271. Customer Identification Programs for Broker-Dealers, 68 Fed. Reg. 25113, 25118 (May 9, 2003) (to be codified at 31 C.F.R. pt. 103); KATIE IVERSON, ATTUS TECHS., USA PATRIOT ACT SECTION 326: CUSTOMER IDENTIFICATION PROGRAM (CIP) JOINT FINAL RULE 3 (2003), *available at* <http://www.bankersonline.com/aml/326whitepaper.pdf>.

272. USA PATRIOT Act § 352 (codified at 31 U.S.C. § 5318 (2012)).

273. *Id.* § 314 (codified at 31 U.S.C. § 5311 (2012)); FIN. CRIMES ENFORCEMENT NETWORK, FINCEN’S 314(A) FACT SHEET 1 (2015).

might be involved in terrorism or money laundering.²⁷⁴ This protocol would be activated after FinCEN received a request from law enforcement, whereupon the organization would notify designated contacts within financial institutions across the country that new information has been made available via a secure website.²⁷⁵ The financial institutions must then examine their records for data matches, including accounts maintained by the individual during the preceding twelve months and transactions conducted within the past six months.²⁷⁶

By legally requiring these institutions to comply, there will undoubtedly be some additional cost to the Bitcoin exchanges, but these expenses are substantially less than those that would be incurred under the current legislation, which classifies Bitcoin exchanges as money transmitters, requiring multi-million dollars in licensing fees. A strong point of contention against approving this policy will likely be the concern that it will negatively impact the value of the currency. However, similar regulations required by China²⁷⁷ and Germany²⁷⁸ have demonstrated that the inherent value built into Bitcoin through its anonymity characteristics appears to have been severely overstated.²⁷⁹ On a global scale, it has become abundantly clear that a vast majority of Bitcoin users are willing to input their personal information in order to have access to the virtual currency.

2. *Economic Advantages*

In mid-November, Federal Reserve Chairman Ben Bernanke sent a letter to the Senate Homeland Security and Government Affairs Committee, which was holding hearings to inquire into

274. FIN. CRIMES ENFORCEMENT NETWORK, *supra* note 273.

275. *Id.*

276. *Id.*

277. *See supra* Part III.A (analyzing the impact of the Chinese government's crackdown on Bitcoin exchanges).

278. *See supra* Part III.B (discussing the Bitcoin community's reaction to the implementation of German anti-money laundering programs as a result of recognition).

279. *Cf.* Kashmir Hill, *Why Are People So Excited About a Bitcoin ATM?*, FORBES (Oct. 31, 2013, 5:34 PM), <http://www.forbes.com/sites/kashmirhill/2013/10/31/why-are-people-so-excited-about-a-bitcoin-atm> (stating that although Canadian law does not require it, the world's first Bitcoin ATM requests the user to scan his palm in order to access the funds in his account).

the various U.S. Federal agencies' stance on Bitcoin.²⁸⁰ In his letter, Chairman Bernanke echoed the 1995 testimony of former Federal Reserve Vice Chairman Alan Blinder before the House Subcommittee on Domestic and International Monetary Policy, discussing the future of money. In his comments, Vice Chairman Blinder acknowledged that electronic money had the potential to be a major thorn in the side of law enforcement, but he was unwavering in his belief that electronic money had tremendous potential.²⁸¹ While the governments of China and Canada appear to be distancing themselves from Bitcoin, the currency has become too economically valuable in the United States to simply ignore.²⁸²

Thus, it is becoming readily apparent that allowing the exchanges to feasibly operate will provide a noticeable economic improvement to the currency itself through a sense of added legitimacy.²⁸³ Conversely, the largest economic benefit of fostering the currency will be the potential boost to overall consumer spending. Consumer spending has long been considered the driving force behind the American economy, and it is no secret that it has suffered since the 2008 recession.²⁸⁴ This boost would

280. Letter from Ben Bernanke, Chairman, Fed. Reserve, to Thomas R. Carper, Chairman, Comm. on Homeland Sec. & Governmental Affairs (Sept. 6, 2013), *available at* <http://online.wsj.com/public/resources/documents/VCurrenty111813.pdf>.

281. *Id.* ("Vice Chairman Alan Blinder's testimony at that time made the key point that while these types of innovations may pose risks related to law enforcement and supervisory matters, there are also areas in which they may hold long-term promise, particularly if the innovations promote a faster, more secure and more efficient payment system.").

282. See FIATLEAK.COM, <http://fiatleak.com> (last visited Nov. 14, 2014) (showing the flow of Bitcoin around the world and demonstrating that the United States is a leading country in daily Bitcoin transactions).

283. Both WebMoney and the Canadian Bitcoin ATM in Vancouver serve as clear examples demonstrating how the convenience of being able to fund an account in person is essential to the success of widespread adoption by a consumer market of a virtual currency. Tom Banse, *U.S. Northwest Gets Its First Bitcoin ATM*, NW NEWS NETWORK, (May 2, 2014, 3:38 PM), <http://nwnewsnetwork.org/post/us-northwest-gets-its-first-bitcoin-atm>.

284. Christopher S. Rugaber & Anne D'Innocenzio, *Tepid US Retail Sales Raising Doubts About Economy*, ASSOCIATED PRESS (Aug. 15, 2013, 9:41 PM), <http://bigstory.ap.org/article/tepid-us-retail-sales-raising-doubts-about-economy>. A recent Gallup Poll announced that December 2013, marked the very first month that consumer spending topped pre-recession levels. Meghan Foley, *U.S. Economy: Ending 2013 with Good Momentum*,

be derived through the tremendous positive effect Bitcoin can have on a business's bottom line. The decision to accept Bitcoin as a means of payment could benefit a business of any size, but to demonstrate the true profit potential, it is best to focus specifically on how accepting Bitcoin can benefit a small business.

The initial impact a small business could expect upon allowance of Bitcoin as a payment is a boost to revenue as a result of an increase in customers. As previously discussed, both Vancouver and Berlin serve as a testament to how small geographical areas with a high density of Bitcoin-accepting retail establishments have experienced a noticeable increase in overall business. Bitcoin is becoming more widely known at precisely the ideal time to replicate these results in the United States. This is primarily because for the first time in almost half a century, there is a nationwide resurgence of the traditional downtown shopping districts, comprised mainly of small businesses.²⁸⁵

More importantly, the long-term benefits to small businesses subscribing to Bitcoin's usage as a payment system would be the significant reduction in an establishment's transaction processing costs. Today, most Americans are likely to pay with a credit or debit card, as opposed to cash or check.²⁸⁶ The prevalence of credit and debit card usage has exposed merchants to a number of additional costs, but the largest fee many businesses are subject to is the discount rate. This is a fee that typically ranges from two to four percent of each credit and debit card

CHEAT SHEET (Jan. 6, 2014), <http://wallstcheatsheet.com/stocks/u-s-economy-ending-2013-with-good-momentum.html>. This rise is a good sign that the economy as a whole is gaining some strength, but it is a somewhat misleading accomplishment. *Id.* The poll compares the average amount people spent in December, which is always abnormally high due to the holiday season, with September 2008, the last month before the economic decline. *Id.*

285. Richard Florida, *The Death and Life of Downtown Shopping Districts*, CITYLAB (June 4, 2012), <http://www.theatlanticcities.com/arts-and-lifestyle/2012/06/death-and-life-downtown-shopping-districts/1925>; see, e.g., *Business*, DOWNTOWN STL, <http://www.downtownstl.org/Business.aspx> (last visited Nov. 14, 2014) (discussing downtown St. Louis, Missouri as a thriving small business hub).

286. SUSAN HERBST-MURPHY, TRENDS AND PREFERENCES IN CONSUMER PAYMENTS: LESSONS FROM THE VISA PAYMENT PANEL STUDY 3–4 (2010), available at <http://www.phil.frb.org/consumer-credit-and-payments/payment-cards-center/publications/discussion-papers/2010/D-2010-Visa-Payment-Panel-Study.pdf>

transaction.²⁸⁷ The implementation of a Bitcoin payment system would eliminate this along with many other business expenses. For example, a company called BitPay will set up the Bitcoin equivalent of a merchant account, and charge the merchant a flat monthly rate of thirty dollars, with zero transaction fees.²⁸⁸

The boost to consumer spending occurs when the small business has the flexibility to offer a portion of the transaction fee savings as a discount to the consumer as an incentive to use Bitcoin as a means of payment. Ironically, there is already a highly successful business model that has historically excelled in this principle, and continues to excel on this principle. Within the past decade, the gas station industry has capitalized on this concept by introducing a special price per gallon for customers who paid in cash.²⁸⁹ Unfortunately, the policy is self-limiting because many consumers do not carry more than \$100 in cash.²⁹⁰ However, with approximately 56% of consumers possessing a smartphone,²⁹¹ there is potential for a strong consumer market

287. *Merchant Account Service Costs*, COSTHELPER.COM, <http://smallbusiness.costhelper.com/merchant-account.html> (last visited Nov. 14, 2014). In addition to the discount rate, there is also another per transaction fee called the “swipe fee.” *Id.* This fee charges the business anywhere from twenty to seventy cents per card swipe. *Id.* On top of these transactions fees, there are also other additional costs like the initial application fee for a merchant account, monthly statement fees, and the cost of a credit card terminal. *Id.*

288. *Pricing*, BITPAY, <https://bitpay.com/pricing> (last visited Nov. 6, 2014). The only transaction fee a merchant would encounter is an optional small amount, typically of less than one percent of the total transaction price, in order to have the transaction gain priority in being recorded within the block chain. Rabee Tourky, *Memory Is Money: Transaction Fees in the Bitcoin Payment Network*, CORE ECON. (Nov. 24, 2013), <http://economics.com.au/?p=9872>; see also *Bitcoin Transaction Fees Explained*, *supra* note 51 (discussing the normal amount of a transaction fee). But see Bailey Reutzell, *BitPay Drops Fees for Small Merchants to Build Bitcoin’s Base*, PAYMENTSSOURCE (Aug. 7, 2014, 4:00 AM), <http://www.paymentssource.com/news/emerging-payments/bitpay-drops-fees-for-small-merchants-to-build-bitcoins-base-3018756-1.html>.

289. Kevin Hunt, *Kevin Hunt: How Do Gas Stations Get Away with Credit vs. Cash Prices?*, HARTFORD COURANT (Aug. 24, 2013), http://articles.courant.com/2013-08-24/business/hc-bottom-line-cash-vs-crediit-gas-20130824_1_credit-card-gas-stations-cash-discount.

290. Jennifer Hong, *How Much Cash Do People Carry 2010*, NEWSOXY (Sept. 11, 2012, 6:25 PM), <http://www.newsoxy.com/business/how-much-cash-15347.html>.

291. Mark Rogowsky, *More Than Half of Us Have Smartphones, Giving Apple and Google Much to Smile About*, FORBES (June 6, 2013, 10:04 AM), <http://www.forbes.com/sites/markrogowsky/2013/06/06/more-than-half-of-us-have-smartphones-giving-apple->

that would be willing to adopt Bitcoin in exchange for a small discount. While there are undoubtedly numerous additional advantages to promoting Bitcoin, the positive economic impact should be enough to incentivize the United States to follow in the footsteps of Germany in adopting a regulatory strategy that does not greatly encroach upon Bitcoin commerce.

V. TAXATION

A. *Taxation Strategies Examined*

While tax evasion is a much-discussed topic, another important tax issue—how the IRS plans to assess taxes on an individual's privately held bitcoins—had been largely left unanswered. Finally, in March 2014, the IRS released a ruling that required virtual currency to be taxed in the same way as traditional property.²⁹² As a result of this ruling, any transaction undertaken with Bitcoin as a means of payment will be assessed tax liability under the same regulations governing barter.²⁹³ The barter rules place the same tedious requirements on consumers as those contained within the guidance issued by the CRA, requiring the consumer to calculate on a per transaction basis the exact value of the goods or services he received throughout the year.²⁹⁴ In the United States this means that a consumer who obtains a good or service through barter is required to determine whether or not he has experienced a gain.²⁹⁵ Due to

and-google-much-to-smile-about.

292. *IRS Virtual Currency Guidance: Virtual Currency Is Treated as Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply*, INTERNAL REVENUE SERV. (Mar. 25, 2014), <http://www.irs.gov/uac/Newsroom/IRS-Virtual-Currency-Guidance>.

293. Richard Rubin & Carter Dougherty, *Bitcoin Is Property Not Currency in Tax System, IRS Says*, BLOOMBERG BUS. (Mar. 25, 2014, 3:25 PM), <http://www.bloomberg.com/news/2014-03-25/bitcoin-is-property-not-currency-in-tax-system-irs-says.html>.

294. *Compare* INTERNAL REVENUE SERV., TAXABLE AND NONTAXABLE INCOME 19 (2015), available at <http://www.irs.gov/pub/irs-pdf/p525.pdf> (requiring taxpayers to report the income, the time received, and the fair market value of the property or service received in bartering), with *supra* text accompanying notes 235–36 (explaining that the Canada Revenue Agency requires the individual to keep records verifying all the goods and services purchased with Bitcoin throughout the year).

295. *Four Things to Know About Bartering*, INTERNAL REVENUE SERV. (Feb. 17, 2012), <http://www.irs.gov/uac/Four-Things-to-Know-About-Bartering-1>.

the always fluctuating nature of Bitcoin value, virtually any purchase by a consumer will result in a gain or a loss, thus each purchase will have to undergo the scrutiny of capital gains treatment.²⁹⁶ Given these strenuous requirements, alternative methods of taxation should be explored that would ease the burden to achieve tax compliance for the Bitcoin community.

1. *Other Potential Classifications of Bitcoin*

There are a number of different classifications that could potentially apply to Bitcoin. It is important to examine each possible grouping because this is a significant decision that will ultimately determine whether the currency is taxed at the higher ordinary income rate or the lower capital gains rate. The implications of this decision are significant to say the least because the selection of one tax rate versus the other could either bolster or cripple the viability of the currency due to the key role the United States plays in the global Bitcoin economy.

a. *Bitcoin Taxed as a Capital Asset*

A capital asset is defined in Section 1221 of the Internal Revenue Code to include those items intended for personal use or held for personal investment purposes.²⁹⁷ With so many individuals holding Bitcoin as part of their portfolio,²⁹⁸ there is a very strong argument for the cryptocurrency being taxed in a similar manner as other investment holdings.²⁹⁹ Not surprisingly, the largest proponents of taxing Bitcoin as a capital asset are the investors because of the more favorable capital gains tax treatment.³⁰⁰

296. *Id.*

297. See I.R.C. § 1221 (2012) (describing “capital asset” as “property held by the taxpayer,” and then excluding several types of properties that are held for trade or business).

298. See *supra* Part II.B.3 (discussing Bitcoin’s potential use as a hedge against inflation).

299. Jonnelle Marte, *Why Investors Don’t Want Bitcoin to Be a Currency*, MARKETWATCH (Dec. 18, 2013, 9:07 AM), <http://www.marketwatch.com/story/investors-may-not-want-bitcoin-to-be-a-real-currency-2013-12-17>.

300. *Id.*

The taxation strategy utilized by the United States for capital assets is very similar to the strategy deployed by Germany, in the sense that there is a time component to the disposal of the asset, which determines the applicable tax rate.³⁰¹ However, the difference between these two tax programs arises in the applicable tax rates themselves. In Germany, the capital gain tax rates are more financially attractive than the rates in United States. Bitcoins sold within one year of being acquired receive capital gains treatment; conversely, the transaction is exempt from tax liability if the bitcoins were sold more than one year after they were originally purchased.³⁰² In the United States, when a capital asset is sold less than one year after acquisition, it is classified as a short-term capital gain, and the proceeds of the sale are taxed at the same rate as ordinary income.³⁰³ However, if a capital asset is held for more than one year before it is sold, then it is considered a long-term capital gain, and taxed at the substantially lower capital gains rate.³⁰⁴

In order to comply with these tax rules, the taxpayer is required to perform an intensive computation. First, he must calculate his short-term capital losses, short-term capital gains, long-term capital losses, and long-term capital gains.³⁰⁵ In the next step, the taxpayer must offset any short-term capital gains with any short-term capital losses to determine if there is a net short-term capital gain or loss.³⁰⁶ Likewise, a taxpayer must offset long-term capital gains with long-term capital losses to determine if there is a net long-term capital gain or loss.³⁰⁷ After this determination, the taxpayer then combines his net long-term capital gains or losses with his net short-term gains or losses to determine if he has experienced a net capital gain or a

301. See *supra* text accompanying notes 216–17 (demonstrating how taxes will be assessed on sale of bitcoins in Germany).

302. See *supra* text accompanying notes 216–17.

303. *Topic 409—Capital Gains and Losses*, INTERNAL REVENUE SERV., <http://www.irs.gov/taxtopics/tc409.html> (last updated Mar. 6, 2015).

304. *Id.*

305. *Id.*

306. INTERNAL REVENUE SERV., CAPITAL GAINS AND LOSSES: SCHEDULE D (FORM 1040) (2014), available at <http://www.irs.gov/pub/irs-pdf/f1040sd.pdf>.

307. *Topic 409—Capital Gains and Losses*, *supra* note 303.

net capital loss for the year.³⁰⁸ In the event of a recognized net capital gain, the user will be taxed at the applicable capital gains rate, but if a net capital loss is realized, the taxpayer may deduct the lesser of \$3,000 or the total amount of the net capital loss.³⁰⁹ If the net capital loss exceeds \$3,000 for the year, the individual has the option to carry the excess losses over \$3,000 back two years, or can carry it forward up to twenty years.³¹⁰

b. Bitcoin Taxed as a Collectible

If Bitcoin were recognized as a collectible, it would face almost identical tax treatment to that of a capital asset. The same one-year timetable for determining the applicable tax rate on gains still applies in this situation.³¹¹ However, due to a special rule concerning collectibles, when the item is assessed tax liability as a capital gain, the proceeds are taxed at a flat rate of twenty-eight percent.³¹² In the event of a loss, the same tax rules concerning losses for a capital asset apply.³¹³

c. Bitcoin Taxed as a Foreign Currency

The validity of the argument for taxing Bitcoin as a foreign currency depends entirely on the determination of whether Bitcoin serves the same principle purposes as a foreign currency.³¹⁴ The advocates of this taxation strategy are comprised primarily of consumers, because of the potential for this policy to

308. *Id.*

309. *Id.*

310. INTERNAL REVENUE SERV., NET OPERATING LOSSES (NOLs) FOR INDIVIDUALS, ESTATES, AND TRUSTS (2015), available at <http://www.irs.gov/pub/irs-pdf/p536.pdf>; *Topic 409—Capital Gains and Losses*, *supra* note 303.

311. *Topic 409—Capital Gains and Losses*, *supra* note 303 (describing the net capital gains from selling collectibles as one of the few exceptions that can be taxed at a rate greater than 15%).

312. *Id.*

313. *See supra* Part V.A.1.a (discussing the tax ramifications of a Bitcoin transaction if it was classified as a capital asset).

314. Jason M. Tyra, *Bitcoin Tax Accountant FAQ*, BITCOIN MAG. (Jan. 3, 2014), <http://bitcoinmagazine.com/9284/bitcoin-tax-accountant-faq>. Similar to the Euro, U.S. Dollar, and Yen, consumers use Bitcoin to purchase real world goods, and risky investors use it as a speculative tool while some investors view it as a possible hedge against inflation.

generate favorable tax implications.³¹⁵ The rule governing the use of foreign currency in certain transactions is found within Section 988 of the Internal Revenue Code. Subsection (e)(2) contains a favorable exception for personal transactions,³¹⁶ which allows a consumer who experiences a gain from a transaction of less than \$200 to be exempt from taxation. In the event the consumer experiences a gain over \$200, then tax liability will be assessed as a capital gain.³¹⁷ The main drawback of this policy is that a loss would be considered a nondeductible personal loss.³¹⁸

B. Proposed Tax Reform

The concern with the aforementioned taxation strategies is the fact that they essentially place two sides of the Bitcoin community, the consumers and the investors, in opposition. If any of the above taxation strategies were adopted in their entirety, only one group would benefit. This has the potential for extreme consequences for the longevity of Bitcoin. In the event that either group abandoned Bitcoin in masses, it would likely create a rapid decline in value as users rush to transfer their bitcoins into fiat money. In light of these alarming implications, a delicate balance must be struck to preserve the currency's current value. On its face, the notion of creating a tax strategy specifically for virtual currencies may appear to be a significant expansion of the tax code. However, the following proposal consists of merely adopting selected sections that currently exist within the tax code.

1. Recognized Gain

The first major step in this process is to follow in the lead of Germany and tax Bitcoin as a capital asset. However, the United

315. I.R.C. § 988(e)(2) (2012); see Tyson Cross, *Bitcoin Tax Treatment for US Citizens—Part 3 Character of Bitcoin Gains—Capital Gains Etc.*, BITCOIN ASS'N, <http://bitcoinassociation.org/bitcoin-tax-treatment-part-3-character> (last visited Nov. 13, 2014) (explaining the tax benefits for consumer transactions, most of which would generate less than \$200 of gain and incur zero tax obligation).

316. I.R.C. § 988(e)(2).

317. Cross, *supra* note 315.

318. Steven Chung, Note, *Real Taxation of Virtual Commerce*, 28 VA. TAX REV. 733, 769 (2009).

States should include some specific exceptions. This classification will appeal to investors because it permits the lower capital gains tax rates that are highly coveted by investors. In addition, designating Bitcoin as a capital asset preserves the market cap by affording the cryptocurrency the opportunity to continue to grow into an important tool of global e-commerce.

The next major issue is determining the value of a bitcoin for cost-basis purposes. The least cumbersome approach is the policy advocated by the Canadian Bitcoin community when criticizing the CRA's guidance.³¹⁹ The Bitcoin community's method calls for the operation of an official exchange rate that the CRA approves daily, allowing the individual to easily determine the value received from a transaction.³²⁰ This is a sound strategy that could be easily implemented by the IRS in order to benefit the consumer portion of the United States' Bitcoin economy. In fact, there already exists a section within the Internal Revenue Code that requires the IRS to perform a similar service, Section 1274(d).³²¹ Under this subsection, the IRS issues a revenue ruling entitled "Applicable Federal Rates" on a monthly basis, which is used to determine the tax position of certain debt instruments.³²² Arguably the most difficult undertaking of this rule would be the development of a set of criteria determining a daily reasonable price, for which the most rational solution may be to determine value using Volume-Weighted Average Price (VWAP).³²³ VWAP determines a daily price through a ratio of value traded to volume traded.³²⁴ Presently, CoinDesk runs a program called the Bitcoin Price Index that reports a price every minute.³²⁵ The price is calculated by averaging a number of the world's top Bitcoin exchanges authorizing the sale of bitcoins in U.S. Dollars.³²⁶

319. *Canada Will Tax Your Bitcoins*, *supra* note 229.

320. *Id.*

321. I.R.C. § 1274(d) (2012).

322. *Id.*

323. *See Volume Weighted Average Price (VWAP)*, STOCKCHARTS.COM, http://stockcharts.com/school/doku.php?id=chart_school:technical_indicators:vwap_intraday (last visited Nov. 13, 2014) (deriving the volume weighted average price).

324. *Id.*

325. *Bitcoin Price Index*, *supra* note 65.

326. *About the Bitcoin Price Index*, COINDESK, <http://www.coindesk.com/price/>

Conceivably, after a twenty-four hour period of trading, a similar program could automatically take the real time price reports from CoinDesk every minute, and then sync that information with the real time volume traded numbers from the exchanges in order to derive the daily VWAP.

The final issue when calculating cost basis is determining exactly which bitcoin was used in a transaction when a user's account contains bitcoins bought at different intervals. Given the finite nature of Bitcoin, and the fact that over sixty percent of the currency is already in the marketplace,³²⁷ the best position would likely be to carry over the default rule from stocks and bonds, first-in first-out (FIFO).³²⁸ This is the position that would be the most advantageous to the government in that a vast majority of bitcoins in circulation today will have an extremely low cost basis in comparison to their final sale price.

The next step in the taxation framework is to create an exception for consumers who experience an insignificant profit from personal purchases. Such an exception would remove many of the tax implications that produce more complications than are justifiable by the minimal tax revenue they would generate. The statute concerning taxation of transactions conducted using a foreign currency contains an exception that would alleviate most of these nuisances. This exception protects consumers from tax liability when they experience a small windfall (i.e., less than \$200)³²⁹ from a transaction because the value of the bitcoin rose between the time they acquired it and the time they spent it. The most difficult phase of adopting this exception is determining the optimal dollar threshold for when tax implications ensue. There is certainly a strong argument for implementing a relatively low dollar figure of less than fifty dollars, since Bitcoin

bitcoin-price-index (last visited Nov. 13, 2014).

327. As of October 25, 2014, there were over 13,424,000 bitcoins in circulation out of a total 21 million. *Bitcoin Price Index*, *supra* note 65; *How Bitcoin Works*, INVESTOPEDIA, <http://www.investopedia.com/articles/investing/072913/how-bitcoin-works.asp> (last visited Nov. 13, 2014).

328. Christine Benz, *Beware the Default Method for Cost-Basis Elections*, MORNINGSTAR (Mar. 26, 2012, 6:00 AM), <http://news.morningstar.com/articlenet/article.aspx?id=541811>.

329. I.R.C. § 988(e)(2) (2012).

can be used in small increments by virtue of it being divisible up to eight decimal places.³³⁰ The potential complication is that a Bitcoin user who purchased a large amount of the currency in its infancy could live off his Bitcoin investment without ever paying any type of income tax. However, there is also an argument for implementing the \$200 threshold because of the volatile nature of Bitcoin. Over the past few months, \$200 to \$300 daily swings in the price of Bitcoin are not entirely out of the realm of possibility,³³¹ and a threshold of this dollar amount protects consumers from experiencing unexpected tax events. While there is certainly validity to this argument, the best possible strategy appears to be lowering the threshold to fifty dollars. Such a small amount serves the important purposes of quelling the fear that users will use a large amount of micro-transactions to circumvent tax liability, offering a degree of protection from unexpected taxation liability as a result of market volatility, and ensuring the government's ability to collect tax liability from bitcoin purchases.

With the larger tax questions resolved, there exists the need for a minor revision of a statute by Congress to cover the final major party involved in Bitcoin, the Bitcoin miners. Unlike consumers or investors, the current tax code does not have a provision that lends itself to a clear-cut determination on a taxation strategy for this group. Nonetheless, there is a strong argument analogizing Bitcoin to gold, as it shares many of the same characteristics such as being both finite in nature and a store of value.³³² Unfortunately, gold, like other precious metals, is taxed as a collectible, and the statutory language defining collectibles limits it to only tangible property.³³³ Ultimately, the best solution to determining appropriate tax liability for this subset of the Bitcoin community may be to modernize the definition of collectible to be more modern and inclusive of

330. Tristan Winters, *The Psychology of Decimals*, BITCOIN MAG. (Nov. 20, 2013), <http://bitcoinmagazine.com/8274/the-psychology-of-decimals>.

331. *Bitcoin Market Price (USD)*, *supra* note 166.

332. Alec Liu, *Why Bitcoins Are Just Like Gold*, MOTHERBOARD (Mar. 21, 2013, 8:45 AM), <http://motherboard.vice.com/blog/why-bitcoins-are-just-like-gold>; Marion, *supra* note 57.

333. I.R.C. § 408(m) (2012).

technology and digital goods.

2. *Recognized Loss*

With the recent rapid decline in Bitcoin's value,³³⁴ it is necessary to include within any taxation strategy a mechanism that allows users to deduct the losses they experience while conducting transactions with digital currencies. The best course of action would be to adopt the traditional rules for losses sustained as a result of disposal of a capital asset.³³⁵ Implementing such a strategy serves the important purpose of instituting a safety net for those individuals who were willing to invest in a new and inherently risky concept. Implementing an instrument of this sort is not considerably different than the fail-safe investors currently enjoy when they elect to buy stock in a company.³³⁶ In the United States, there has always been a great appreciation for capitalists; in fact, some may argue that this country has continued to thrive financially because the bold innovators and risk-takers are permitted to enjoy the spoils of their success. Following in this entrepreneurial spirit, it is reasonable to update the tax code to allow those who are currently at the forefront of evolving payment systems for efficient use in the digital age to enjoy the fruits of their labor.

VI. CONCLUSION

Today, after viewing the impact that Bitcoin has had on a variety of markets, there is no denying that Bitcoin is a revolutionary payment system. Although Bitcoin first came to notoriety because of its misuse by criminals, it has since been able to escape from the shadows and become a legitimate financial instrument. Yet, the bankruptcy of Mt. Gox represents the cruel reality about investing in Bitcoin which is that a user can lose everything practically overnight. In the wake of this scandal, it has been made clear that the system cannot sustain itself without

334. *Bitcoin Market Price (USD)*, *supra* note 166.

335. *Ten Important Facts About Capital Gains and Losses*, INTERNAL REVENUE SERV. (Feb. 18, 2011), <http://www.irs.gov/uac/Ten-Important-Facts-About-Capital-Gains-and-Losses>.

336. *Id.*

any regulatory oversight. For this reason, there has been a recent push on both the federal and state levels to regulate the currency. Likewise, for the first time, the operators of Bitcoin exchanges are welcoming the idea of developing regulatory standards. These operators recognized that the novel appeal of a digital currency has worn off, and the currency's viability now depends exclusively on the public perception of Bitcoin's fidelity.

One key factor in determining the future direction of Bitcoin is for the entire Bitcoin community to abandon their view of regulation as unnecessary government intrusion, and recognize that regulation can indeed serve as a positive stabilizing force. History has shown that the financial industry, in particular needs extensive oversight. Through acts of Congress, including Glass-Steagall, Sarbanes-Oxley, and Dodd-Frank, the government has ensured consumer protection, and restored consumer faith in financial institutions. It is important that when lawmakers begin developing laws for the governance of virtual currencies that they seek out leaders in the Bitcoin market, and seize this opportunity to develop proper regulatory and taxation strategies for digital currencies. It is critical to work towards developing these frameworks now, because even if Bitcoin does not survive the Mt. Gox scandal, there are other digital currencies poised to fill the void, and they will continue to stride towards becoming an indispensable part of a consumer's daily life.