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Taking a Bit out of Crime: Bitcoin and Cross-Border Tax Evasion

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TAKING A BIT OUT OF CRIME: BITCOIN AND CROSS-BORDER TAX EVASION

INTRODUCTION

In 2009, a Norwegian man spent roughly 150 kroner to purchase 5,000 bitcoins.[1] He promptly forgot about the investment, which amounted to around US$27.[2] Four years later, he rediscovered his bitcoins, which were then worth over eight hundred thousand dollars.[3] Indeed, the value of a bitcoin, which has proven wildly volatile in the years since Satoshi Nakamoto created the program, increased nearly five thousand percent in less than a year.[4] From its inception in 2009 to April 2010, the value of one bitcoin never topped US$0.14.[5] On February 10, 2011, one bitcoin reached parity with the U.S. dollar for the first time.[6] Following press coverage, including in Forbes magazine and the popular gossip site Gawker,[7] a

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1. Samuel Gibbs, *Man Buys $27 of Bitcoin, Forgets about Them, Finds They're Now Worth $886k*, GUARDIAN (Oct. 29, 2013), http://www.theguardian.com/technology/2013/oct/29/bitcoin-forgotten-currency-norway-oslo-home.

2. *Id.*

3. *Id.*

4. Robert W. Wood, *Bitcoin's $13.50 To $1,200 Eleven Month Climb—Now Taxes*, FORBES (Dec. 2, 2013), http://www.forbes.com/sites/robertwood/2013/12/02/bitcoins-13-50-to-1200-eleven-month-climb-now-taxes/; *see also* Derek A. Dion, *I'll Gladly Trade You Two Bits on Tuesday for a Byte Today: Bitcoin, Regulating Fraud in the E-Conomy of Hacker-Cash*, U. ILL. J.L. TECH. & POL'Y (Spring 2013); Benjamin Wallace, *The Rise and Fall of Bitcoin*, WIRED MAG. (Dec. 2011), *available at* http://www.wired.com/magazine/2011/11/mf_bitcoin/all/1.

5. Wallace, *supra* note 4.

6. IamTheRealMike, *Online-Only Currency BitCoin Reaches Dollar Parity*, SLASHDOT (Feb. 10, 2011, 1:59 PM), http://news.slashdot.org/story/11/02/10/189246/online-only-currency-bitcoin-reaches-dollar-parity.

7. Andy Greenberg, *Crypto Currency*, FORBES (Apr. 20, 2011, 6:00 PM), http://www.forbes.com/forbes/2011/0509/technology-psilocybin-bitcoins-gavin-andresen-crypto-currency.html; Adrian Chen, *The Underground Website Where You Can Buy Any Drug Imaginable*, GAWKER (June 1, 2011, 1:14 PM),

bitcoin's value skyrocketed and ultimately reached over US$1200 in late 2013.[8] However, each time the value of the currency has increased it has crashed amid a spate of Ponzi schemes,[9] attacks by hackers,[10] and criticism from elected officials, including U.S. Senators Chuck Schumer and Joe Manchin.[11] The value of the bitcoin has continued to fluctuate significantly, but sat at over US$800 as of December 31, 2013.[12]

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http://gawker.com/5805928/the-underground-website-where-you-can-buy-any-drug-imaginable.

8. Charles Arthur, *Bitcoin Value Crashes below Cost of Production as Broader Use Stutters*, GUARDIAN (Oct. 18, 2011, 12:27 PM), http://www.guardian.co.uk/technology/2011/oct/18/bitcoin-value-crash-cryptocurrency.

9. Adrianne Jeffries, *Suspected Multi-million Dollar Bitcoin Pyramid Scheme Shuts Down, Investors Revolt*, VERGE (Aug. 27, 2012, 3:43 PM), http://www.theverge.com/2012/8/27/3271637/bitcoin-savings-trust-pyramid-scheme-shuts-down.

10. James Ball, *Bitcoins: What Are They and How Do They Work?*, GUARDIAN (June 22, 2011, 9:07 AM), http://www.guardian.co.uk/technology/2011/jun/22/bitcoins-how-do-they-work.

11. Brennon Slattery, *U.S. Senators Want to Shut Down Bitcoins, Currency of Internet Drug Trade*, PCWORLD (June 10, 2011, 1:58 PM), http://www.pcworld.com/article/230084/us_senators_want_to_shut_down_bitcoins_currency_of_internet_drug_trade.html.

12. For a comprehensive chart marking the history of the price of a bitcoin on various exchanges, see BITCOINCHARTS.COM, http://bitcoincharts.com/charts/mtgoxUSD#rg120ztgSzm1g10zm2g25zv (last visited Dec. 31, 2013); *see also* Rob Wile, *The Chinese Are in Love with Bitcoin and It's Driving the Digital Currency's Prices into the Stratosphere*, BUSINESSINSIDER (Oct. 29, 2013), http://www.businessinsider.com/china-and-bitcoin-2013-10#ixzz2jPvA0QS4 ("Since reaching a low of $109 on the Mt. Gox exchange the day of Silk Road incident Oct. 2, prices have climbed nearly $100, reaching as much as $233. Prices haven't fallen below $200 since Sunday [Oct. 24, 2013]."); Christopher Williams, *Bitcoin Tumbles on Closure of Drugs Black Market the Silk Road*, TELEGRAPH (Oct. 3, 2013), http://www.telegraph.co.uk/finance/currency/10352176/Bitcoin-tumbles-on-closure-of-drugs-black-market-the-Silk-Road.html (tracking the fluctuations after the Silk Road closure from $140 to $110 and back up to $128 per bitcoin on October 2, 2013). For up-to-date exchange rates, see MTGOX—BITCOIN EXCHANGE, http://www.mtgox.com (last visited Feb. 18, 2014).

While investors are likely ecstatic at its meteoric rise in value, regulators and taxpayers alike face uncertainty regarding Bitcoin's status for tax purposes.

This Note asserts two arguments. First, that Bitcoin fits within the Internal Revenue Service's existing legal framework. And second, that the serious and justified concerns about tax evasion by those who use Bitcoin instead of more traditional methods of online payment can be counterbalanced by expanding self-reporting requirements for the cryptocurrency and increasing cooperative information sharing via a multilateral tax agreement.

I. BACKGROUND

Bitcoin is a peer-to-peer electronic cryptocurrency[13] that operates on open-source[14] software.[15] In most traditional online transactions, financial institutions that are trusted by the parties involved in the exchange act as a third-party verifier.[16] Bitcoin was designed to avoid the need for such institutions and eliminate the associated transaction costs.[17] Designed by the pseudonymous programmer Satoshi Nakamoto,[18] Bitcoin

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13. A cryptocurrency is loosely defined as a decentralized system of exchange, or electronic money, which uses cryptography to provide the program's security. There are numerous alternative cryptocurrencies which are, for the purposes of this Note, functionally equivalent.

14. Open-source software is computer software that has publicly available code and a license granted by the copyright holder that allows anyone to view, alter, and distribute the software. For a complete definition, see *The Open Source Definition*, OPEN SOURCE INITIATIVE, http://opensource.org/osd (last visited Feb. 18, 2014).

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

16. SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM (2009), http://www.bitcoin.org/bitcoin.pdf.

17. *Id.*

18. Nakamoto posted online about Bitcoin extensively in its early stages, but subsequently disappeared (at least under that name). His writing style, syntax, and frequency have been analyzed to a considerable degree, and ex-

allows for peer-to-peer payments without a central authority or financial institution acting as an intermediary.[19] Unlike other electronic or in-game currencies, Bitcoin is not pegged to a government-backed fiat dollar,[20] meaning its value relative to those currencies is market driven. Like cash, the Bitcoin network lacks identifying information such as e-mail addresses and user names, so the balance in an account simply "belongs" to the individual who has the file and can trade in bitcoin.[21] Each Bitcoin account has a balance in bitcoins and an "address"[22] to which bitcoins can be sent via the client,[23] but the

perts in cryptography and the Bitcoin community tend to believe there is a small pool of individuals who could have reasonably created the program. In March 2014, Newsweek magazine wrote a profile of a California man it alleged was the publisher of the Bitcoin paper. Leah McGrath Goodman, *The Face Behind Bitcoin*, NEWSWEEK, Mar. 6, 2014, http://mag.newsweek.com/2014/03/14/bitcoin-satoshi-nakamoto.html?_ga=1.31968382.1302259160.1393422837. For a deeper analysis of his potential identity, see Joshua Davis, *The Crypto-Currency*, NEW YORKER, Oct. 10, 2011, at 62, 68, a*vailable at* http://cryptome.org/0005/bitcoin-who.pdf (discussing the necessary prowess and limited number of individuals capable of creating the code for Bitcoin); *see also* Wallace, *supra* note 4 (speculating that Bitcoin may be the work of a group of individuals, perhaps at the NSA or Google).

19. Wallace, *supra* note 4.

20. J.P. & G.T., *Bits and Bob*, ECONOMIST: BABBAGE (June 13, 2011, 8:30 PM), http://www.economist.com/blogs/babbage/2011/06/virtual-currency [hereinafter *Bits and Bob*].

21. *Introduction: Anonymity*, BITCOIN.IT WIKI, https://en.bitcoin.it/wiki/Introduction#Anonymity (last updated Jan. 20, 2014) [hereinafter *Anonymity*].

22. Addresses are not technically random, but appear to be. For example, the author has used the address "16wBhFQckvRAzWCybmCkCSeNkXsLiXbU2w" while researching this article.

23. Unsurprisingly, there is no official usage rule for describing the coin, but the Bitcoin community tends to describe the network, client, and other software as "Bitcoin," while a unit of currency is stylized with the lowercase "bitcoin." Some discussion on the subject can be found at *Convention—To BTC or Not to btc, That Is the Question*, BITCOIN FORUM,

"[t]ransacting parties do not need to know each other's identity in the same way that a store owner does not know a customer's name who pays with cash."[24] In other words, whether a purchaser wishes to buy online from a worldwide brand's website, in person at a local grocery store, or from a yard sale vendor, the transaction is the same: a direct exchange of digital coins over the Internet for the goods or services provided. The result is a secure, partially anonymous, and decentralized electronic medium of exchange with limited transaction fees.[25]

Bitcoin has caused quite a sensation since its creation in 2009.[26] It has been discussed in Congressional hearings,[27] accepted as donations by a New Hampshire state senator[28] and

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https://bitcointalk.org/index.php?topic=108775.0;all (last visited Feb. 19, 2014).

24. *Anonymity*, *supra* note 21.

25. A spirited discussion of transaction fees and their role in the Bitcoin economy once the mining process yields smaller results can be found at *Where Do Transaction Fees Go?*, BITCOIN FORUM, https://bitcointalk.org/index.php?topic=34865.0.

26. Annie Lowery, *My Money Is Cooler Than Yours*, SLATE (May 18, 2011, 6:07 PM), http://www.slate.com/articles/business/moneybox/2011/05/my_money_is_cooler_than_yours.html (highlighting the "criminals, libertarians, and privacy freaks" who have embraced the system, as well as its appeal to those parties).

27. Bitcoin was first mentioned in a Congressional hearing during the testimony of Lawrence H. White, Professor of Economics at the Mercatus Center at George Mason University, in the context of removing legal tender status from U.S. dollars to allow payment in, among other options including gold and foreign currency, "[b]itcoins, and whatever else a lender and a borrower might agree upon." Professor White testified before the House Committee on Financial Services Subcommittee on Domestic Monetary Policy and Technology in September, 2011. *Road Map to Sound Money: A Legislative Hearing on H.R. 1098 and Restoring the Dollar Before the Fin. Servs. Subcomm. on Domestic Monetary Policy and Tech. and the Comm. on Fin. Servs.*, 112th Cong. 87–90 (2011) (statement of Lawrence H. White, Professor of Econ., George Mason Univ.), *available at* http://financialservices.house.gov/uploadedfiles/091311white.pdf.

28. *Donate Bitcoins to the Campaign*, MARKWARDEN.COM, http://www.markwarden.com/page/bitcoin-donation (last visited Oct. 11, 2012). The campaign accepts bitcoins and "support[s] currency freedom," but

by the Internet's most popular blogging system,[29] commented on by a Nobel Prize-winning economist,[30] and denounced by U.S. senators.[31] It has been called "a compelling, if not polarizing mix of freedom of speech, cryptography, networked computing, finance, economics, and even politics."[32] Importantly, Bitcoin has gained traction worldwide, benefitting from monetary insecurity in Europe,[33] and has been evaluated by the Federal Bureau of Investigation.[34] It is now reportedly accepted by over one thousand businesses in a total of ninety-eight coun-

in "the spirit of transparency and legality . . . require[s] the contributor's name and home post office address with every donation" as well as other information to comply with state and federal campaign finance laws.

29. Wordpress.com, the most popular site for self-publishing a blog, began accepting payment via bitcoin in 2012. Andy Skelton, *Pay Another Way: Bitcoin*, WORDPRESS.COM, http://en.blog.wordpress.com/2012/11/15/pay-another-way-bitcoin/ (Nov. 15, 2012, 10:21 PM).

30. Paul Krugman, Op-Ed., *Golden Cyberfetters*, N.Y. TIMES (Sept. 7, 2011, 12:20 AM), http://krugman.blogs.nytimes.com/2011/09/07/golden-cyberfetters/; *see also* Paul Krugman, Op-Ed., *Bitcoin Is Evil*, N.Y. TIMES (Dec. 28, 2013, 2:35 PM). In 2008, Krugman won the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel "for his analysis of trade patterns and location of economic activity." *Paul Krugman—Facts*, NOBELPRIZE.ORG, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2008/krugman-facts.html (last visited Nov. 1, 2013).

31. Tom Cheredar, *Forget Piracy, U.S. Government Is Going After Bitcoin*, VENTUREBEAT (June 8, 2011, 9:58 PM), http://venturebeat.com/2011/06/08/government-crackdown-on-bitcoin ("Senators Charles Schumer and Joe Manchin are pressing officials to take action against Bitcoin.").

32. Alec Lui, *With Euro Instability, Can Bitcoin Now Compete with Hard Currency?*, MOTHERBOARD (June 12, 2012), http://motherboard.vice.com/2012/6/12/with-euro-instability-can-bitcoin-now-compete-with-hard-currency.

33. Adrianne Jeffries, *Bitcoin Gets a Boost from Euro Crisis*, BETABEAT (June 11, 2012, 8:51 AM), http://betabeat.com/2012/06/bitcoin-gets-a-boost-from-euro-crisis.

34. CYBER INTELLIGENCE SECTION & CRIMINAL INTELLIGENCE SECTION, FED. BUREAU OF INVESTIGATION, BITCOIN VIRTUAL CURRENCY: UNIQUE FEATURES PRESENT DISTINCT CHALLENGES FOR DETERRING ILLICIT ACTIVITY (2012), http://www.wired.com/images_blogs/threatlevel/2012/05/Bitcoin-FBI.pdf.) [hereinafter FBI REPORT].

tries via Bitcoin payment service provider, Bitpay.[35] Exemplifying the currency's international scope, the second Bitcoin-related lawsuit[36] was filed in San Francisco, California in 2012 by plaintiffs who listed sixty unknown defendants,[37] in addition to the named defendant company, which was registered as a financial services provider in New Zealand[38] with a Singapore-based founder.[39]

A. How Bitcoin Works

To facilitate secure transactions without a central issuing authority or third-party financial institution, Bitcoin relies on cryptographic proof via "hashing" and "forced work," essentially amounting to using math to prove the veracity of the transactions.[40] Bitcoin avoids fraudulent transactions and "double-spending," which are normally verified by a banking institution, by maintaining a public record of every transaction in the

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35. *BitPay Exceeds 1,000 Merchants Accepting Bitcoin*, BITPAY (Sept. 11, 2012), http://blog.bitpay.com/2012/09/bitpay-exceeds-1000-merchants-accepting.html.

36. The first suit involving Bitcoin transactions was also filed in California in August, 2012. In that case, hackers allegedly took over 46,000 BTC (bitcoin) from an exchange company, though some victims speculate that the theft was an inside job. As in the second case, the first involves multiple international and unidentified individuals and corporations. *See* Morgen Peck, *First Bitcoin Suit Filed in San Francisco*, IEEE SPECTRUM (Aug. 15, 2012), http://spectrum.ieee.org/tech-talk/computing/networks/first-bitcoin-lawsuit-filed-in-san-francisco.

37. Megan Geuss, *Bitcoinica Users Sue for $460k in Lost Bitcoins*, ARSTECHNICA (Aug. 11, 2012, 8:10 PM), http://arstechnica.com/tech-policy/2012/08/bitcoinica-users-sue-for-460k-in-lost-bitcoins/.

38. Jon Matonis, *Bitcoinica Registers in New Zealand for Bitcoin Margin Trading*, FORBES (Apr. 21, 2012), http://www.forbes.com/sites/jonmatonis/2012/04/21/bitcoinica-registers-in-new-zealand-for-bitcoin-margin-trading.

39. For an interview with the founder, explaining his involvement with the company, see *10 Questions with Zhou Tong (The Creator of Bitcoinica)*, COINABUL BLOG, http://coinabul.tumblr.com/post/24022841613/10qs-zhou-tong-bitcoinica/ (last visited Oct. 4, 2013).

40. NAKAMOTO, *supra* note 16; *Bits and Bob*, *supra* note 20.

currency. However, in a large network with many transactions that require verification, calling for all users to scrutinize the public list of transactions for accuracy is impractical.[41] To allow for verification of the transaction record in essentially real time, without nefarious individuals tampering with the process, "[i]ndividual transactions are encrypted, logged by a decentralized network running on thousands of home computers, and recorded in a public ledger," thus creating a "distributed middleman."[42]

Nakamoto's system of user-generated transaction verification does two significant things that previous attempts at decentralized online currencies could not. First, by providing for the verification of previous transactions on the network via "computational proof of the chronological order of transactions," it prevents users from spending the same Bitcoin twice.[43] Second, it offers a solution to the problem of determining which chain of code is the most trustworthy by giving weight to the amount of computing power invested in mining, not the number of users on the network.[44]

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41. *Bits and Bob*, *supra* note 20.

42. Barrett Sheridan, *Bitcoin: Currency of the Geeks*, BUSINESSWEEK MAG. (June 16, 2011), http://www.businessweek.com/magazine/content/11_26/b4234041554873.htm.

43. NAKAMOTO, *supra* note 16, at 1. In his self-published 2009 white paper introducing Bitcoin, Nakamoto claims that "transactions that are computationally impractical to reverse" and "generate computational proof of the chronological order of transactions" prevent double-spending, since any attempt to spend the same coin twice from the same account will be rejected as part of the "proof of work" verification needed to generate new coins. "The system is secure as long as honest nodes collectively control more [Central Processing Unit ("CPU")] power than any cooperating group of attacker nodes." *Id.*

44. *Id.* Here, the trustworthiness of the chain refers to verifying the accuracy of the public record of past transactions. In other words, the system of verification acts as a mechanism for making sure that the history of Bitcoin transactions is accurate. While an attacker in control of more than half of the network can reverse his or her own transactions—possibly allowing for double spending—and prevent others from mining new bitcoins, an attacker cannot reverse other individuals' transactions, send coins that he or she does

To gain possession of new bitcoins, users have three options. Individuals can either convert their local currency to bitcoins via an exchange,[45] or accept the currency as payment for goods or services.[46] Alternatively, individuals can "mine" bitcoins by offering their computer's processing powers to validate transactions in the public ledger.[47] The mining process is the method by which the Bitcoin network enters new coins into circulation while simultaneously verifying the history of Bitcoin transactions.[48] Verification requires a process termed "forced work" or "proof of work."[49] Each miner's computing power is put to use by the network to solve a complex algorithm, called a "hash."[50] This algorithm creates a number called a hash value, or a di-

not possess, create new coins without mining, or stop others from doing business altogether. *Weaknesses: Attacker Has a Lot of Computing Power*, BITCOIN.IT   WIKI, https://en.bitcoin.it/wiki/Weaknesses#Attacker_has_a_lot_of_computing _power (last visited Oct. 4, 2013). In short, a successful attack can do significant damage to the network, but even an individual or group of individuals with control of the network are likely to find it more cost-effective to follow the network's rules. While Bitcoin's design is such that an attack on the network is not likely to be profitable for the attacker due to the enormous cost of maintaining more than half of the computing power of the peer-to-peer network, it is still possible. Such an attack could cause irreparable damage to Bitcoin since the verification of transactions during the time the attacker controlled the system would be extremely difficult. For an example of an attempted attack based on modifying the open-source code used to create the Bitcoin program, see Davis, *supra* note 18.

45. See for example the most popular Bitcoin exchange, MTGOX, https://mtgox.com (last visited Feb. 22, 2014).

46. For a non-comprehensive list of companies accepting payments in bitcoin see *Trade*, BITCOIN.IT WIKI, https://en.bitcoin.it/wiki/Trade (last visited Feb. 22, 2014).

47. *How Does Bitcoin Work?*, BITCOIN.ORG, http://bitcoin.org/en/how-it-works (last visited Dec. 30, 2013).

48. *Id.*

49. NAKAMOTO, *supra* note 16, at 3.

50. *Hash*, BITCOIN.IT WIKI, https://en.bitcoin.it/wiki/Hash (last visited Feb. 22, 2014) ("A hash algorithm turns an arbitrarily-large amount of data into a fixed-length hash. The same hash will always result from the same data, but modifying the data by even one bit will completely change the hash.").

gest, which "provides a unique representation of the original" message.[51] It is not possible to decrypt the hash value alone to decipher the original message, and changes made to the original message give no indication as to what a new digest will look like.[52] In short, the answer, or digest, "appears to be generated at random" to a user who sees it, but no matter how difficult the algorithm is, once it is solved, the other users can quickly verify the answer by running the hashing algorithm with the proposed solution.[53] The history of every Bitcoin transaction is kept on that chain, which is publicly available and corroborated through the hashing process. A reward is granted to the miner whose "proof of work" solved the last "block" of the algorithm, and that reward is the first transaction in the next block, which in practical terms means that the rewarded miner now has more bitcoins in his account or "wallet."[54] Like any other computer file, the new coins can be stored on a local computer, backed up on a hard drive, or stored on an online wallet service.[55] Like cash, if a bitcoin file is destroyed, stolen, or otherwise compromised, there is no way to recover it.[56]

Currently, miners earn twenty-five bitcoins[57] as every new block is created; however, the open source Bitcoin program is set to decrease that amount with every 210,000 blocks created.[58] This means that the total number of bitcoins in circulation

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51. *Bits and Bob*, *supra* note 20.

52. *Id.*

53. *Id*.

54. *Id*.

55. *Id*.

56. Sheridan, *supra* note 42.

57. Adrianne Jeffries, *Total Number of Bitcoins Hits 10.5 Million, Production Halves to Stop Inflation*, VERGE (Nov. 28, 2012, 10:44 AM), http://www.theverge.com/2012/11/28/3701434/total-number-of-bitcoins-hits-10-5-million-production-halves-to-stop (As a safeguard against inflation, "the 'block reward,' the number of Bitcoins that can be created at a time, [] has dropped from 50 to 25.").

58. Jon Matonis, *ECB: "Roots of Bitcoin Can Be Found in the Austrian School of Economics,"* FORBES BLOG (Nov. 3, 2012, 11:04 AM),

will approach, but never reach, twenty-one million.[59] To complicate matters, in order to maintain a relatively steady pace of authentication, the Bitcoin software changes the difficulty level of the algorithm based on the number of users trying to solve it. To oversimplify slightly, this means that if more computers mine on the Bitcoin client—and more powerful computers at that—the odds of the average miner getting the reward decrease.[60]

In response, mining "pools," in which groups of users collectively mine and earn a small percentage of the bitcoin reward, have become increasingly popular.[61] Since greater processing power increases the odds of finding the new coins, users can join a team of fellow miners in lending their computing power to the process.[62] The team works together to solve bits of the algorithm, and the members of the pool are paid the reward amount in bitcoins.[63] Each member of the pool is given a percentage of those coins—often less a fee taken by the pool's manager—usually based on the percentage of the pool's pro-

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http://www.forbes.com/sites/jonmatonis/2012/11/03/ecb-roots-of-bitcoin-can-be-found-in-the-austrian-school-of-economics [hereinafter Matonis, *ECB*].

   59. *Id.*

   60. As one pool puts it, "If you set out mining on your own, it may be a long time before you can make a return . . . If you have a slower computer, or a CPU miner, then pooled mining may be the only way that you will ever mine any bitcoins at all." *See* Bitcoin.cz Mining, http://mining.bitcoin.cz (last visited Nov. 2, 2013).

   61. Bitcoin.cz describes the process:

   Our server gives users blocks of very low difficulty to solve. Each solution found is registered as one "share." Occasionally, a solution will happen to also meet the full-strength difficulty requirements of the Bitcoin network, resulting in a successful 25 BTC minting. This 25 BTC is divided among all of the users that contributed to that round, weighted by the number of shares that they earned.

See id.

   62. *Pooled Mining*, Bitoin.it Wiki, https://en.bitcoin.it/wiki/Pooled_mining (last visited Jan. 19, 2013).

   63. *Id.*

cessing power he or she provided to the group.[64] This method provides a smaller but more consistent stream of income to the members of the pool, and allows those without major computing power to have a more reasonable chance at earning coins.

However, determining where the miners are located and where payment from the pool's organizer came from can be difficult. Miners contribute their computing power from all over the world, and mining pool organizers operate with nearly the same anonymity as the rest of the Bitcoin network. Therefore, a user may know the country of origin of his or her pool's manager,[65] but may have little other verifiable data about the person or persons administering the pool despite receiving steady payment in bitcoins for his or her mining efforts. While the pool arrangement somewhat resembles an employer-employee relationship, the association is extremely informal. The individual miners have no obligation to continue to mine and any time they are not mining, they are unable to receive a piece of the reward.[66]

The dispersal of the authentication method over numerous individuals on the network allows for one of the most novel and important Bitcoin innovations, the elimination of the third-party verifier.[67] The advent of the Internet and subsequent explosion of e-commerce created a demand for methods of secure electronic payment. PayPal, the most popular online payment system, allows its users to pay for goods and services by acting

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64. There are currently numerous ways to divide the earned coins among pool members. For a comparison of pools, see *Comparison of Mining Pools*, BITOIN.IT WIKI, https://en.bitcoin.it/wiki/Comparison_of_mining_pools (last visited Feb. 22, 2014).

65. *Id.*

66. BITCOIN.CZ, *supra* note 60. This is known as Slush's Pool. Bitcoin.cz notes that the Bitcoin system does not allow for any other kind of arrangement: "When the pool mine [*sic*] a block, only users who worked on that block are rewarded, and only for work they did on that block. This is an unavoidable consequence of the way that Bitcoin mining in general works." *Id.*

67. NAKAMOTO, *supra* note 16, at 1.

as a third-party verifier.[68] Users "fund their PayPal accounts through existing debit cards, credit cards or checking accounts,"[69] allowing individuals and businesses to transact "without mailing a check or sending a credit card number to an unknown person or Web site."[70] Thus, users do business with one another while only disclosing detailed personal and financial information to PayPal.[71] Bitcoin endeavors to remove the need for a third party to verify the transaction, as the client's users verify the transaction chain via the aforementioned hashing process.[72] Since the program automatically reduces the reward for mining new bitcoins and maintains a steady average rate of distribution, bitcoin is not subject to the politically-influenced policies of central banks, which are prone to inflationary practices.[73]

B. The Controversies

The controversial nature of Bitcoin is without question. It's efficacy as a medium of trade, a store of value, and a method of increasing privacy with respect to online purchases are hotly

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68. *About PayPal*, PAYPAL, https://www.paypal-media.com/about (last visited Jan. 18, 2013).

69. *PayPal, Discover Team Up on Mobile Payments*, WALL ST. J. TECH. BLOG (Aug. 22, 2012, 6:41 PM), http://online.wsj.com/article/SB100008723963904443584045776050726021079 32.html.

70. Lee S. Adams & David J. Martz, *Developments in Cyberbanking*, 57 BUS. LAW. 1257, 1272 (2002).

71. Carl Kaminski, *Online Peer-to-Peer Payments: Paypal Primes the Pump, Will Banks Follow?*, 7 N.C. BANKING INST. 375, 379 (2003).

72. The Internet also led to the creation of other digital currencies, which were often backed by precious metals or cash reserves, and sometimes had hard currency counterparts. *See generally* Peter C. Tucker, *The Digital Currency Doppelganger: Regulatory Challenge or Harbinger of the New Economy?*, 17 CARDOZO J. INT'L & COMP. L. 589 (2009).

73. Jon Matonis, *Fear Not Deflation*, FORBES BLOG (Dec. 23, 2013, 12:01 PM), http://www.forbes.com/sites/jonmatonis/2012/12/23/fear-not-deflation/.

contested.[74] A number of problems face those promoting the use of Bitcoin. First, Bitcoin itself could potentially violate U.S. law, as it arguably competes with the U.S. dollar and other national currencies that have a monopoly on the issuing of money.[75] More likely, Bitcoin is not directly competitive with the U.S. dollar within the meaning of the relevant statutes.[76] Bitcoin was also the currency of choice on Silk Road, an online black marketplace for illegal drugs, weapons, and child pornography.[77] It has been scrutinized and to some degree stigmatized by the FBI and elected officials due to this association.[78] It has been similarly targeted for its potential as a money laundering vehicle.[79]

Still, Bitcoin appeals to its supporters for a variety of reasons. Most economists promote the positive role of central banking on modern economies—including maintaining price stability, preserving high employment levels, and avoiding deflation.[80] However, to some individuals, centralized monetary authorities, "diminishing financial privacy, and the entrenched legacy financial infrastructure" spur innovation to escape "eco-

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74. For a skeptics take on the practical value of Bitcoin, see Krugman, *supra* note 30.

75. For a full treatment of this subject, see Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 160, 182 (2011) Grinberg notes that "[j]udicial interpretations of the Act and its precursors indicate that the touchstone of the Act is competition with official currency," and also characterizing a government crackdown on a private minter as "best understood as an attack on counterfeiting and fraud rather than as the first salvo in a war against private currencies." *Id.*

76. *Id.*; *see also* Dion, *supra* note 4 (evaluating counterfeiting laws, the Securities and Exchange Acts, and disclosure requirements for financial institutions, and concluding that Bitcoin is problematic from a regulatory standpoint, but not due to counterfeiting concerns).

77. Sheridan, *supra* note 42.

78. FBI REPORT, *supra* note 34; Sheridan, *supra* note 42.

79. *Bits and Bob*, *supra* note 20.

80. *Monetary Policy and the Economy*, *in* THE FEDERAL RESERVE SYSTEM: PURPOSES   AND   FUNCTIONS   15,   15–16, http://www.federalreserve.gov/pf/pdf/pf_2.pdf (last visited Feb. 22, 2014).

nomic repression."[81] These individuals prefer commodity-backed or competing currencies and do not trust the long-term value of fiat money, such as the U.S. dollar, which, like bitcoins, cannot be redeemed for a commodity.[82] They prefer to store their wealth, and when possible, transact business, outside the monopolistic issuance of currency by central banks.[83] As Bitcoin is unsupported by any government or central authority, it is not subject to the political pressures or economic policies that govern central banking authorities and private money issuers.[84] However, the lack of consolidated control also makes Bitcoin appealing to those wishing to engage in illegal activity or support dissident organizations, such as WikiLeaks.[85] Bitcoin has the additional advantage of being usable

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81. Jon Matonis, *Bitcoin Prevents Monetary Tyranny*, FORBES BLOG (Oct. 4, 2012, 11:58 AM), http://www.forbes.com/sites/jonmatonis/2012/10/04/bitcoin-prevents-monetary-tyranny.

82. *See* VIRTUAL CURRENCY SCHEMES, EUROPEAN CENTRAL BANK (2012), *available   at* http://www.ecb.int/pub/pdf/other/virtualcurrencyschemes201210en.pdf,   22 [hereinafter VIRTUAL CURRENCY SCHEMES].

> One of the foremost names in this field is Friedrich A. Hayek. He wrote some very influential publications, such as *Denationalisation of Money* (1976), in which he posits that governments should not have a monopoly over the issuance of money. He instead suggests that private banks should be allowed to issue non-interest-bearing certificates based on their own registered trademarks. These certificates (i.e. currencies) should be open to competition and would be traded at variable exchange rates. Any currencies able to guarantee a stable purchasing power would eliminate other less stable currencies from the market. The result of this process of competition and profit maximisation would be a highly efficient monetary system where only stable currencies would coexist.

Id.

83. Matonis, *ECB, supra* note 58.

84. *Id*.

85. Jon Matonis, *WikiLeaks Bypasses Financial Blockade with Bitcoin*, FORBES   BLOG   (Aug.   20,   2012,   9:47AM), http://www.forbes.com/sites/jonmatonis/2012/08/20/wikileaks-bypasses-financial-blockade-with-bitcoin/.

across borders and without the limitations that come from the extensive authorization process required for the use of credit cards.[86] Thus, the lack of a third-party verifier, cash-like anonymity, and worldwide application of Bitcoin opens up a much larger portion of e-commerce to illegal and illicit activity, as well as tax evasion.

Although its primary goal is arguably "preventing monetary tyranny" by avoiding the whims of centralized banking schemes,[87] some advocates of Bitcoin recognize the need to standardize its use and protect its security in order to popularize the currency and prove its legitimacy.[88] Bitcoin offers no official dispute resolution authority,[89] leaving it up to users to trust that their transactions are kept secure by the program's self-regulating procedures. User accounts are not tied to ordinary bank accounts or other personal identifying information, making protecting ones' property rights in the recent explosion of Ponzi schemes and defrauded investor cases more difficult

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86. *Bits and Bob*, *supra* note 20; *see also Banking Blockade*, WIKILEAKS (Oct. 24, 2011), http://wikileaks.org/Banking-Blockade.html (detailing the "Banking Blockade" by banking institutions, which declined to accept donations to WikiLeaks as a result of political pressure from the United States government).

87. Matonis, *supra* note 81.

88. The Bitcoin Foundation, whose Board of Directors includes prominent Bitcoin supporters, was founded in October 2012 to promote these goals. *See* Jon Matonis, *Bitcoin Foundation Launches to Drive Bitcoin's Advancement*, FORBES   BLOG   (Sept.   27,   2012), http://www.forbes.com/sites/jonmatonis/2012/09/27/bitcoin-foundation-launches-to-drive-bitcoins-advancement.

> The Bitcoin Foundation mission leads to the early specific goals of financially sponsoring the efforts of the core development team, funding core infrastructure such as a test network and a DNS seed node, publishing a set of best practices for bitcoin integration, [and] coordinating responses to business and media inquiries.

Id.

89. In response, some escrow-like services that charge a flat percentage fee, such as BTCrow.com, have emerged. Of course, an escrow service that is untrustworthy could abscond with bitcoins just as easily as a buyer or seller.

than conventional financial transaction cases of fraud.[90] The root of the Bitcoin scheme is that confidence in the currency stems from its self-regulatory properties, without requiring the control of any one authority. However, users who are hacked or stolen from, or who have disputes stemming from transactions in bitcoin, are increasingly turning to traditional legal authorities for a remedy.[91] If legal remedies, such as arbitration, are needed regularly, it may defeat the Bitcoin proposition altogether, as the advantages Nakamoto envisioned—including lower cost-of-use than credit cards and a secure network—may not be realized. Proponents counter that while Bitcoin exchanges and users have both been subject to significant security breaches, the network infrastructure has not been subject to a successful attack. In fact, experts in cryptography and programming have been unable to find significant breaches in the network.[92] Even though these breaches have not compromised the infrastructure of the Bitcoin network, they have created serious problems for those advocating the expansion of Bitcoin use into everyday purchasing.[93]

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90. Willard Foxton, *Bitcoin 'Pirate' Scandal: SEC Steps in amid Allegations That the Whole Thing Was a Ponzi Scheme*, TELEGRAPH (last updated Sept. 27, 2012), http://blogs.telegraph.co.uk/technology/willardfoxton2/100007836/bitcoin-pirate-scandal-sec-steps-in-amid-allegations-that-the-whole-thing-was-a-ponzi-scheme.

91. *See, e.g.*, Julia Dixon, *List of Bitcoin Court Cases, Complaints, Regulatory Actions, Etc.*, DGC MAG. (Jan. 1, 2014), http://www.dgcmagazine.com/list-of-bitcoin-court-cases-complaints-regulatory-actions-etc/.

92. Davis, *supra* note 18. Internet security researcher Dan Kaminsky, known for discovering and fixing a flaw in Internet programming by which a skilled hacker could overtake or shut down nearly any website, was unable to find a "penetration point" into the Bitcoin network. He subsequently described the Bitcoin program as the work of a "paranoid, painstaking" coder with "world-class" programming skills who, if working alone, "is a genius." *Id.*

93. Neil McAllister, *Bitcoin Foundation Vows to Clean Up Currency's Bad Rep*, Register (Sept. 29, 2012), http://www.theregister.co.uk/2012/09/29/bitcoin_foundation_launched.

II. FEDERAL INCOME TAX OBLIGATIONS RESULTING FROM BITCOIN EXCHANGES

Before analyzing concerns over tax evasion with respect to Bitcoin, one must establish as a threshold issue that transactions in bitcoin are taxable under U.S. law. The technological advances since the foundation of the Internal Revenue Code (the "Code") and its initial interpretations by U.S. courts over a century ago were not contemplated by the statute's drafters.[94] While the problem of how to tax "virtual currencies"—meaning in-game, online, or other electronic sources of potentially taxable income—has received significant analysis, the U.S. government has not adopted a comprehensive approach to solving the tax concerns presented by electronic currencies. To compound the difficulties resulting from a lack of clear policy on the subject, Bitcoin is meaningfully different from the virtual currencies that have been discussed in the past; thus, the legal issues associated with Bitcoin are largely unprecedented.

U.S. citizens and residents conducting business within the fifty states and District of Columbia should look to the Internal Revenue Code to determine the tax ramifications of buying, selling, or trading in bitcoins. Under Section 61 of the Code, "gross income means all income from whatever source derived."[95] Among the examples of income enumerated in Section 61 are "compensation for services," "income derived from business," interest, rent, dividends, and royalties, but the Code explicitly notes that the list is not comprehensive.[96]

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94. Steven Chung, *Real Taxation of Virtual Commerce*, 28 VA. TAX REV. 733, 777 (2009) (noting that those "lawmakers did not have virtual worlds in mind when they wrote the tax laws").

95. 26 U.S.C. § 61(a) (2006).

96. Both the House and Senate Committees responsible for drafting the language of Section 61 instructed that the word "income" in the Internal Revenue Code ("Code") was to be used in the same way as it is used in text of the Sixteenth Amendment to the Constitution, but that "there is no hope . . . of finding an authoritative definition of 'income' in the legislative and public debates that preceded and accompanied the ratification of the Sixteenth Amendment." MARTIN J. MCMAHON, JR. & LAWRENCE A. ZELENAK, FEDERAL

After the implementation of the Revenue Act of 1913, the U.S. Supreme Court added some substance to the definition of "income" in a series of cases.[97] In the most prominent of those cases, *Eisner v. Macomber*, the Court defined income "as the gain derived from capital, from labor, or from both combined."[98] The case, involving the taxation of stock dividends, established that Congress cannot tax the appreciation in value of assets during the taxable year, since the gain has not yet been realized.[99] Between 1920 and 1955, the Court eroded much of the definition provided in the *Macomber* case.[100] Then, in 1955, the Court decided *CIR v. Glenshaw Glass Co.* and dealt the mortal blow to the *Macomber* definition.[101] The Supreme Court diminished the importance of the *Macomber* decision considerably, choosing instead to concentrate on the fact that the punitive damages were "undeniable accessions to wealth, clearly realized, and over which the taxpayers have complete dominion."[102] This three-part test—accession to wealth, realization, and complete dominion—for determining whether a gain is income for tax purposes is still in use.[103] Thus, a "sweeping" definition

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INCOME TAXATION OF INDIVIDUALS ¶ 3.01, 1 (2d ed. 2013) [hereinafter MCMAHON & ZELENAK].

97. *Id.*

98. Eisner v. Macomber, 252 U.S. 189, 207 (1920).

99. Marjorie E. Kornhauser, *The Story of* Macomber*: The Continuing Legacy of Realization*, *in* TAX STORIES: AN IN-DEPTH LOOK AT TEN LEADING FEDERAL INCOME TAX CASES 53, 54 (Paul L. Caron ed., 2003).

100. *Id.*

101. Comm'r v. Glenshaw Glass Co., 348 U.S. 426 (1955). *Glenshaw* involved an antitrust settlement in which the punitive damages awarded to Glenshaw Glass Co. were not reported as taxable income. *Id.*

102. *Id.* at 431. The Court went on to note that "[t]he mere fact that the payments were extracted from the wrongdoers as punishment for unlawful conduct cannot detract from their character as taxable income to the recipients." *Id.*

103. The three-part test is known as the Haig-Simons definition of income. Joseph A. Pechman, *Comprehensive Income Taxation: A Comment*, 81 HARV. L. REV. 63, 64 (1967). ("Even a cursory examination of the literature discloses that the basic concept used or implied in discussions of comprehensive income taxation is the Haig-Simons definition.").

of taxable income as "all gains except those specifically exempted"[104] emerges, although the *Glenshaw Glass* definition is "neither as broad nor as straightforward" as it appears.[105] For example, Congress has elected not to tax certain "gains" that are unrealized but not specifically exempted, like appreciation and imputed income.[106]

One cause for the lack of clarity could be that the Court in *Glenshaw Glass* was attempting to preserve the requirement of realization while encompassing the broad statutory scope of the Sixteenth Amendment.[107] With that in mind, Bitcoin falls squarely within the other two requirements: accession to wealth and complete dominion. The receipt of bitcoins is an accession to wealth, whether the coins are classified as a currency, a commodity, or any other type of property. The value of bitcoins fluctuates based on market factors, but the current definition of income "bring[s] within its grasp all accessions, whether consumed or saved," and regardless of their actual market value.[108] The possessor of the bitcoins also has total dominion over them because there are no restrictions on the sale, trade, transfer, destruction, or any other disposition of the files.

Thus, the second part of the *Glenshaw Glass* test, "realization," is an important aspect in determining tax liability when using bitcoins to buy, sell, or trade, as well as with respect to the mining process.[109] Realization is loosely defined in the

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104. *Id*. at 429–30.

105. Alice G. Abreu & Richard K. Greenstein, *Defining Income*, 11 Fla. Tax Rev. 295, 300 (2011).

106. McMahon & Zelenak, *supra* note 96.

107. Abreu & Greenstein, *supra* note 105, at 305.

108. *Id* at 304.

109. To illustrate the importance of realization to the taxable status of Bitcoin, consider the Haig-Simons definition of income, the most commonly used formulation of income in economics. Under the Haig-Simons definition, "income" is the "algebraic sum of (1) the market value of rights exercised in consumption and (2) the change in the value of the store of property rights between the beginning and end of the period in question." That equation is the *Glenshaw Glass* definition without the requirement of realization, and

American tax structure, but the central theory is that the increase or decrease in value of an asset is insufficient to expose one to income tax obligations.[110] Pursuant to Treasury Regulation 1.1001, "the gain or loss realized from the conversion of property into cash, or from the exchange of property for other property differing materially either in kind or in extent, is treated as income or as loss sustained."[111] In other words, an exchange of property that is materially different in kind is required for a taxable event to occur.

Requiring realization eliminates administrative problems,[112] although it allows an individual to reap the benefits of some unrealized gains. For example, if one buys a stock at ten dollars per share, and the price of that stock increases to one hundred dollars per share in six months, one may decide to behave quite differently than originally planned, perhaps taking a vacation or purchasing real estate without selling one's shares.[113] Other parties, such as lending institutions and long-lost relatives, may treat one differently as well.[114] If, in another six months, the stock has plummeted back to ten dollars per share,

thus provides an even broader scope of taxable income than *Glenshaw Glass*. If the tax code were based on the Haig-Simons definition, all of a taxpayer's property would have to be valued periodically. The difference in value during the taxable period would constitute the taxpayer's income. *See* Abreu & Greenstein, *supra* note 105, at 304.

110. Kornhauser, *supra* note 99, at 55.

111. 26 C.F.R. § 1.1001–1

112. There are two major motives for requiring the tax system to wait until realization occurs before taxation. First, many assets that could appreciate or depreciate in value are so infrequently bought or sold that it is difficult to establish a fair market value for them without soliciting the purchase of the item from an actual buyer. Second is the problem of liquidity. Even if the value of an asset can be easily determined, the taxpayer may be unable to pay the tax without first selling the asset in question, thus discouraging long-term capital investment. Potential investors may choose not to purchase an asset if they fear that "paper gains"—increases in the value of the asset that still run the risk of depreciating and also do not provide any liquid income— are taxed before realization. *See* Abreu & Greenstein, *supra* note 105, at 300.

113. Kornhauser, *supra* note 99, at 55.

114. *Id.*

then from an economic perspective one has had both a gain of ninety dollars per share and a loss of the same value over the course of a year—however, from the standpoint of the Internal Revenue Code, neither income nor loss has accrued because there was no requisite realization.[115]

It is apparent from the relevant case law and scholarly discussion that when exchanging bitcoins for cash, goods, services, or other property, as well as when receiving bitcoins for mining, taxable events likely occur. Generally, a transaction that alters the relationship of the potential taxpayer to the asset in question is required before the imposition of the income tax.[116] The creation of the bitcoins, and their distribution to the individual miner, certainly alters the relationship of the miner to the coins: it is a payment of sorts for the work done by the taxpayer's computer in solving the hash. Even more obvious is the exchange of the cryptocurrency for goods, services, or cash. The exchange in bitcoins operates nearly identically to that of traditional money in these types of exchanges, altering the relationships of the parties to the goods or services in question by facilitating the transaction. Additionally, the difficulty in establishing a market value for many assets is of little concern to Bitcoin users since the currency has an easily ascertainable market value. Similarly, the lack of liquidity while holding some assets militates against suspending tax payments, but since Bitcoin is, or at least is designed to be, a substitute for cash payments, that is also not a concern.

Once it is accepted that bitcoin transactions are taxable events, the next issue is how bitcoins should be classified for tax purposes. Bitcoin has unique tax implications for both individuals and corporate entities because the legal identity of a bitcoin has not yet been codified or set by legal precedent.[117]

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115. *Id.*

116. *Id.*

117. Nikolei M. Kaplanov, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation*, 25 LOYOLA CONSUMER L. REV. 111, 113 (2012).

Bitcoin is dissimilar to anything that existed when current securities regulations and tax laws were written.[118] While using bitcoins to engage in illegal activity, such as purchasing narcotics or money laundering, does not insulate one from prosecution, it does provide a level of anonymity comparable to cash while expanding the scope of such exchanges to long-distance online transactions. Thus, some uses of bitcoin as a payment, exchange, or store of wealth operate in a "legal grey area."[119] Without any case law from which to make a determination as to the tax status of Bitcoin,[120] tax regulators, planners, and individuals must compare its various uses to decisions regarding more traditional types of economic transactions. While a weak argument can be made for exemption from taxation, the three realistic options under current tax law are categorization as a form of currency, a type of intangible property such as a security, or a commodity suitable for barter transactions.

One comparison drawn between Bitcoin and other digital currencies is to that of in-game or virtual world currencies. While these game worlds do share some similarities with the Bitcoin infrastructure, a comparison to Bitcoin for tax purposes may still be unsuitable. Millions of people across the globe participate in virtual worlds, some of which have internal economic systems and currencies.[121] Games such as Second Life[122] and World of Warcraft,[123] as well as social networks like Facebook,[124] are a few examples of online forums that provide users

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118. Timothy B. Lee, *Why Bitcoin Lives in a Legal Gray Area*, Ars Technica (Aug. 24, 2012, 11:30 AM), http://arstechnica.com/tech-policy/2012/08/why-bitcoin-lives-in-a-legal-gray-area/.

119. *Id.*

120. Kaplanov, *supra* note 117, at 113.

121. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 Cal. L. Rev. 1, 8 (2004).

122. Second Life, http://www.secondlife.com (last visited Feb. 22, 2014).

123. World of Warcraft, http://www.worldofwarcraft.com (last visited Feb. 22, 2014).

124. Facebook allows users to play games such as FarmVille as part of the social network activity. FarmVille allows users to engage in virtual activity related to planting and harvesting crops, raising livestock, and cultivating

with the opportunity to engage in "economic" activity. This is accomplished by exchanging dollars for the internal currency of the virtual world, by exchanging with each other within the game world, or both.[125] Some of the currency exchanges in virtual worlds have little economic significance beyond the initial exchange from dollars to in-game currency.[126] For some of these worlds, the ability to increase a character's skill, buy game add-ons, and otherwise enhance the immersive experience is the full extent of the transaction.[127] Other worlds present the additional opportunity to earn money in the game via internal exchanges and marketplaces that allow for transactions between players.[128]

Players can create wealth stemming from the game world through both in-game and real-world activity.[129] They can trade with other players within the game environment, exchange virtual items with one another, or swap game items or in-game services for in-world currency.[130] The income earned from these transactions can, in some instances, be "cashed out" or returned to the government-backed currency of the player's choice.[131] Players can also engage in "real money trading," a

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land. Like many of Facebook's games, FarmVille is free to play, but users have the ability to purchase premium content that enhances the gaming experience. *FarmVille*, FACEBOOK, https://www.facebook.com/FarmVille (last visited Feb. 22, 2014).

125. Bryan T. Camp, *The Play's the Thing: A Theory of Taxing Virtual Worlds*, 59 HASTINGS L.J. 1, 9 (2007).

126. Chung, *supra* note 94, at 776–77.

127. *Id.* at 776.

128. *Id.*

129. Camp, *supra* note 125, at 9.

130. *Id.*

131. For example, Blizzard Entertainment's game Diablo III allows "players in certain regions" to link their game account with "an account with an approved third-party payment service such as PayPal. . . . Once this has been completed, proceeds from the sale of items in the real-money auction house can be deposited into their third-party payment service account." *Diablo® III Auction House—Functionality*,   BATTLE.NET, https://us.battle.net/support/en/article/diablo-iii-auction-house-functionality#q12 (last visited Jan. 2, 2014).

type of transaction involving selling specific virtual items, the value of which is typically set by in-game scarcity, or selling entire player accounts—again valued by their "level," "score," or other in-game metric—for government-backed currency.[132] While most of the owners of these virtual worlds frown upon or even ban such sales outside the game world, third-party sites such as eBay provide an outlet for such transactions.[133]

In-game currencies share some similarities with Bitcoin, and are likewise not contemplated by the Internal Revenue Code.[134] They can be traded or exchanged for goods, services, or cash, and exist only in their digital form; however, unlike in-game currencies, Bitcoin was designed for real-world transactions[135] and its production, distribution, and value relative to other currencies is not centrally controlled.[136] If the entity responsible for a game like Second Life wishes to inflate or deflate the number of Linden Dollars (the game's internal currency), or charge an artificial value for them relative to the U.S. dollar, it

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132. Lastowka & Hunter, *supra* note 121, at 38.

133. *Id.*

> The mechanics of it are simple. Possessing some valuable asset in the virtual world . . . I list it for sale in the section of eBay devoted to such auctions. The auction winner uses eBay payment mechanisms (Visa, Mastercard, PayPal) to transfer the agreed price in the real world. I then agree with the auction winner on a meeting place in the virtual world, and when we meet there I hand over the in-world property.

Id.

134. Leandra Lederman, *Ebay's Second Life: When Should Virtual Earnings Bear Real Taxes?*, 118 YALE L.J. POCKET PART 136, 138 (2009).

135. While there is no reason to think online game worlds could not accept bitcoins for subscription to the game or in-game goods and services, or that players could not exchange bitcoins in real-world exchanges related to an online world, it is important that Bitcoin was not designed *for* one of these worlds, but instead as a more universal means of commercial exchange.

136. Matonis, *ECB*, *supra* note 58.

may do so.[137] Likewise, it can issue currency to players in exchange for a monthly fee in U.S. dollars or create its own dollar unit subdivisions. Due to the cryptographic design of Bitcoin, such manipulation is unlikely.[138]

Tantalizing to proponents of Bitcoin is the current silence from the Internal Revenue Service ("IRS") regarding transactions within a game world. As of now, bitcoins are generally not taxable gross income until they are "cashed out" from the in-game currency back into "real money," goods, or services.[139] The cash-out rule works well as a *de facto* rule for virtual worlds because it tends to refrain taxing those who benefit only in terms of in-game entertainment, while collecting from those who acquire real-world benefits.[140] If this model were adopted and extended to Bitcoin, one could argue that receipt and payment in bitcoins would not be taxable as income until "cashed out" into U.S. dollars or another real-world benefit. Under such a system, income tax could potentially be deferred intentionally by keeping wealth in the form of bitcoins, perhaps indefinitely.[141]

Unfortunately for those eyeing Bitcoin as a cure-all for income taxation, the argument for avoiding taxes by using bitcoins falls short in a few important ways. First, while exchanges made in bitcoins may take place electronically, they are not part of a virtual world, game, or other insulated experience separate from the marketplace serviced by the cash transaction. Thus, the cash-out rule's primary positive characteristic—protection of gamers from taxation on benefits that do not extend into the real world—lacks application to the Bitcoin client. Second, realization likely occurs when one receives a bitcoin, and in any case, the broad definition of income applied

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137. For a look into the real-world legal ramifications of in-game currencies, see Kevin W. Saunders, *Virtual World—Real Courts*, 52 VILL. L. REV. 187 (2007).

138. NAKAMOTO, *supra* note 16, at 1.

139. Chung, *supra* note 94, at 735.

140. *Id.*

141. Lederman, *supra* note 134, at 138.

by the Supreme Court likely rules out any loophole passing judicial scrutiny.[142] In essence, taxation *could* occur without realization, but legislatures and courts have refused to allow it because of the difficulties in administering a code that taxes "paper gains."[143] The gains made by receiving bitcoins for services, goods, or cash are more aptly compared to cash transactions or barter, both of which are taxable events. Finally, technicalities such as the cash-out rule have a poor record in U.S. courts. In *Gregory v. Helvering*, the Supreme Court ruled that the legal form of a transaction could be ignored in favor of its economic substance.[144] In so doing, the Court upheld a lower court decision authored by Judge Learned Hand, who wrote that "the meaning of a sentence may be more than that of the separate words, as a melody is more than the notes."[145] In short, any legal technicalities regarding the form of Bitcoin or transactions in bitcoins are highly unlikely to merit any legal standing for the avoidance of income taxation.

With the cash-out rule inapposite, the threshold issue of bitcoin taxation is resolved. While there are three main positions that the Internal Revenue Service, Congress, or courts could adopt with respect to the taxation of Bitcoin transactions, each indicates that bitcoins are a type of property that falls within the *Glenshaw Glass* definition of taxable income. First, the Internal Revenue Service could determine that bitcoins are a security. Alternatively, the IRS could treat Bitcoin as a foreign currency. Finally, cryptocurrencies could fall into the category of a commodity, making transactions in bitcoin suitable for regulation as barter or as part of a barter club. Exactly

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142. Helvering v. Horst, 311 U.S. 112, 116 (1940).

143. For a thorough look at the value of the realization requirement from economic and public policy standpoints, see Edward A. Zelinsky, *For Realization: Income Taxation, Sectoral Accretionism, and the Virtue of Attainable Virtues*, 19 CARDOZO L. REV. 861 (1997).

144. Gregory v. Helvering, 55 S.Ct. 266 (1935).

145. Helvering v. Gregory, 69 F.2d 809, 810–11 (2d Cir. 1934), *aff'd*, 293 U.S. 465 (1935).

which of these tax applications will be adopted is unclear,[146] and may in fact differ on a case-by-case basis until such time as Congressional legislation, IRS regulation, or a Supreme Court decision clarifies the rule. However, since taxable events likely occur in a bitcoin transaction, this Note will assume that Bitcoin is both legal and taxable in analyzing the cross-border tax evasion concerns that follow.

III. BITCOIN AND THE INTERNATIONAL TAX REGIME

Once the U.S. federal income tax status of a cryptocurrency is resolved, the major issue that remains relates to the implications of the anticipated increase in cash-like transactions across borders in bitcoins. Bitcoin, the first digital currency designed to have a real-world, worldwide reach,[147] expands the field of use for cash-like transactions, creating new problems in administrating tax laws across borders. Bitcoin allows for exchanges in goods, services, and information on a scale never before seen: in effect, a worldwide bazaar where multinational corporations and individual vendors have the same access to prospective buyers, yet the transactions between them are roughly as difficult to investigate as cash exchanges. The prospect of increased tax evasion, and the need to develop information-sharing mechanisms among competent authorities,[148] calls for a renewed look at participation in multilateral approaches to tax enforcement, such as the Convention on Mutual Administrative Assistance in Tax Matters.

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146. For a thorough discussion of the possible classifications under U.S. law, see Grinberg, *supra* note 75.

147. joshritchie, *Bitcoins: The Taxless Currency*, TAX BREAK: THE TURBOTAX BLOG, (July 18, 2011), http://blog.turbotax.intuit.com/2011/07/18/bitcoins-the-taxless-currency.

148. A competent authority for these purposes is a tax administration, such as the Internal Revenue Service, that has jurisdiction over enforcing the tax code for a state.

A. Bitcoin Across Borders

Bitcoin expands the horizon for "cash-like" transactions from face-to-face or mail contacts to the borderless world of the Internet. That includes routine legal purchases, as well as tax evasion, money laundering, and illegal purchases of drugs and weapons. Among the main criticisms of Bitcoin is its alleged use for worldwide criminal activity and as a conduit for tax evasion.[149] Opponents, such as U.S. Senator Chuck Schumer, argue that "it allows buyers and users to sell illegal drugs online, including heroin, cocaine, and meth, and users do sell by hiding their identities through a program that makes them virtually untraceable."[150] The FBI "assesses with medium confidence that, in the near term, cyber criminals will treat Bitcoin as another payment option alongside more traditional and established virtual currencies."[151] It also foresees that "law enforcement faces difficulties in detecting suspicious activity, identifying users, and obtaining transaction records—problems that might attract malicious actors to Bitcoin."[152] Bitcoin "is essentially the cold, hard cash of the Internet,"[153] operating in much the same way as the aforementioned fiat currencies. Thus, major policy concerns arise in accepting into the U.S. tax regime a channel for such questionable transactions by potentially anonymous individuals.

While these criticisms are worthy of consideration, the positive potential of Bitcoin to encourage efficient economic activi-

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149. Rosemary Westwood, *Why Bitcoin Is the Banking Industry's Newest, Biggest Threat*, MACLEAN'S (Jan. 2, 2013 11:58 AM), http://www2.macleans.ca/2013/01/02/why-bitcoin-is-the-banking-industrys-newest-biggest-threat/ ("Bitcoin is known as a choice currency for illegal drug websites, money laundering and tax evasion. And that's among the minority of people who are even aware it exists.").

150. Ben Popper, *Chuck Schumer Bashes BitCoin, Wants to Shut Down Silk Road Drug Site*, BETABEAT (June 6, 2011, 11:55 AM), http://betabeat.com/2011/06/chuck-schumer-silk-road-bitcoin-drugs.

151. FBI REPORT, *supra* note 34.

152. *Id.*

153. Westwood, *supra* note 149.

ty, reduce transaction costs, and promote efficient global trade between individuals is worth nurturing.[154] Additionally, as the European Central Bank noted,

> practically identical problems [to those posed by Bitcoin] can also occur when using cash . . . Cash can be used for drug dealing and money laundering too; cash can also be stolen, not from a digital wallet, but from a physical one; and cash can also be used for tax evasion purposes.[155]

The Internal Revenue Service estimates that about 17% of total owed taxes are not paid on time,[156] resulting in a difference of about US$345 billion in revenue for the U.S. government in 2001.[157] This missing piece of the tax pie is known as the "tax gap."[158] Over 80% of the tax gap is attributed to underreporting,[159] mostly by individual tax return filers.[160] In addition,

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154. joshritchie, *supra* note 147.

155. VIRTUAL CURRENCY SCHEMES, *supra* note 82.

156. *The Tax Gap*, IRS, http://www.irs.gov/uac/The-Tax-Gap (last visited Oct. 7, 2013). The tax information taken from this article is from 2006.

157. Richard B. Malamud & Richard O. Parry, *It's Time to Do Something about the Tax Gap*, 9 HOUS. BUS. & TAX L.J. 1, 11 (2008).

158. Eric Toder, *What Is the Tax Gap?*, TAX NOTES, Oct. 22, 2007, at 1, *available at* http://www.urban.org/UploadedPDF/1001112_tax_gap.pdf ("The *gross tax gap* is the difference between tax liability in any year and the amount of tax that is paid voluntar[ily] and on time.").

159. *Id.*

> The gross tax gap has *three components*—non-filing, underreporting of tax owed, and underpayment. The three components are mutually exclusive and add up to the total tax gap. The *non-filing gap* is the tax not paid on time by taxpayers who have a legal requirement to file a tax return, but do not file on time. The *underreporting gap* is the tax owed by taxpayers who file returns on time, but underreport the amount of tax they owe. The *underpayment gap* is the loss of revenue owed by taxpayers who file returns on time, but do not pay their reported tax due on time.

Id.; *What Is the Tax Gap?*, TAX POL'Y CTR., http://www.taxpolicycenter.org/briefing-book/background/tax-gap/what-is.cfm (last visited Feb. 22, 2014). Underreporting accounts for about 83% of the

"owners of small businesses with substantial cash revenue fail to pay about half their taxes," typically by creating a parallel cash economy.[161] For example, a small business owner may choose to eliminate cash payments under a certain amount from the income rolls each day, elect not to deposit that cash, and avoid paying both sales and income taxes on those sales.[162] Business owners then spend the cash on inventory, extra payments to employees, personal property, or simply hoard the cash in a safe or deposit box.[163] In response, the IRS has gone to significant lengths in the food service industry to increase compliance among wait staff, as both employees and employers tend to underreport cash tips.[164] In the Internet context, many online auction vendors do not report their sales to the IRS, despite transacting in local currency via online payment facilitator PayPal, or by credit card or personal check.[165] These exam-

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gross tax gap, as opposed to underpayment or non-filing, which makes up the remainder. *Id.*

160. *The Tax Gap*, *supra* note 156.

161. Susan Cleary Morse, Stewart Karlinsky & Joseph Bankman, *Cash Businesses and Tax Evasion*, 20 STAN. L. & POL'Y REV. 37, 43 (2009).

162. *Id*. at 50.

163. *Id*. at 54–55.

164. Harold S. Peckron, *The Tip Police: Aftermath of the Fior D'italia Rule*, 52 CATH. U. L. REV. 1, 4 (2002).

> The [Internal Revenue] Service employs an aggregate estimation formula. This methodology is based upon an aggregate estimate of all tips that the employer's customers paid to the employees. Using this method, the Service merely examines the credit card slips for the years in question, determines the customer's average tip rate, assumes that cash customers tipped at the same rate, and then simply multiplies this derived tip rate by the employer's total receipts. The Service then subtracts the amount already reported from the product to determine the [Federal Insurance Contributions Act] tax base.

Id.

165. OFFICE OF TAX POL'Y, U.S. DEP'T OF THE TREASURY, A COMPREHENSIVE STRATEGY FOR REDUCING THE TAX GAP 6 (2006) ("Noncompliance is highest

ples illustrate that tax evasion is an inherent problem in a cash-based tax system that relies on self-reporting, and is a significant problem in online transactions in fiat currency.[166] Therefore, the scope of tax evasion and illegal activity in Bitcoin transactions may mirror or even exceed that of traditional cash transactions, but while Bitcoin may broaden the range of transactions that are likely to result in underreporting, the root of the problem exists independent of this technology.[167]

There are two main tools the U.S. government already has at its disposal to curb the potential for money laundering and tax evasion as Bitcoin's popularity grows. The first is that aspects of existing laws, most notably the Bank Secrecy Act ("BSA"), likely already encompass transactions in bitcoin.[168] The United

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among taxpayers whose income is not subject to third-party reporting or withholding requirements.").

166. Despite the tax gap, T.S. Adams observed that inequitable taxation, of which he viewed double taxation as an example, encourages tax evasion. "The American taxpayer . . . has been compared, confused, and used synonymously with the liar. As a matter of fact, when confronted with an equitable tax and a fearless assessor, he is amazingly honest." Michael J. Graetz & Michael M. O'Hear, *The "Original Intent" of U.S. International Taxation*, 46 DUKE L.J. 1021, 1033 (1997) (quoting Thomas S. Adams, *Interstate and International Double Taxation*, in LECTURES ON TAXATION 101, 102 (Roswell Magill ed., 1932)). For a thorough investigation into the challenges and recent developments involved with e-commerce taxation, including the OECD's role, see generally Arthur J. Cockfield, *The Rise of the OECD as Informal "World Tax Organization" Through National Responses to E-Commerce Tax Challenge*s, 8 YALE J.L. & TECH. 136 (2006).

167. Malamud & Parry, *supra* note 157, at 31.

> Only with voluntary compliance by the American taxpayer can we close the tax gap. The IRS needs to be properly funded, and the IRS needs to make it known that they are ready, willing and able to locate, audit and prosecute taxpayers who are not paying their taxes in full. This will never be 100% successful, but talking about the problem has had little effect.

Id.

168. 31 U.S.C. § 310 (2006); *see infra* Part III.C; *see also* Dion, *supra* note 4.

States should strengthen enforcement of those laws and establish precedent for applying them to digital currencies. The second is the increased effectiveness of a combination of bilateral tax treaties and the Convention on Mutual Administrative Assistance in Tax Matters ("Multilateral Convention" or "Convention"), each of which can be utilized to increase cooperation between competent authorities with respect to encouraging disclosure of Bitcoin transactions and prosecuting tax evaders.

B. The International Tax Regime

One major obstacle to preventing the use of tax shelters and tax evasion via underreporting is the limitation on a government's ability to procure timely, relevant information about taxpayers.[169] Countries simply cannot unilaterally verify tax reporting information about the international activity of taxpayers they suspect of dishonest reporting. The major information-gathering apparatus employed to combat this problem is contained within the complex network of bilateral income tax treaties.[170] When citizens and residents of one country regularly earn income in other countries, both the source country (where the income was earned) and the residence country (where the earner resides) may lay claims to tax the income.[171] Double taxation results when both countries exercise their taxing powers in this manner.[172] Double taxation means an earner may be taxed on the same income by both the source country and the residence country, creating an economically inefficient situation.[173] One aim of the international tax law regime is resolving the competing claims of residence and source nations to

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169. Steven A. Dean, *The Incomplete Global Market for Tax Information*, 49 B.C. L. Rev. 605, 606–07 (2008).

170. For a list of U.S. income tax treaties, see *United States Income Tax Treaties—A to Z*, IRS, http://www.irs.gov/Businesses/International-Businesses/United-States-Income-Tax-Treaties—-A-to-Z (last visited Feb. 22, 2014).

171. Graetz & O'Hear, *supra* note 166, at 1033.

172. *Id.*

173. *Id.*

avoid double taxation.[174] The primary method for coordinating tax policies is a bilateral treaty on taxation signed between two countries. There are over seventeen hundred bilateral tax treaties currently in effect.[175]

In addition to eliminating double taxation, such treaties also promote information sharing between signatories. "Bilateral information exchange provisions allow two governments to barter with one another, each supplying information that the other can use to enforce its taxes."[176] The two countries create a system in which one agrees to send lists of taxpayer-specific information to the other country, which in return provides similar lists.[177] The countries are not typically able to buy or trade anything other than tax information in return for the tax information received, so they cannot usually pay cash in consideration for the information.[178]

While bilateral arrangements have proven stable and popular, they suffer from considerable limitations. For example, a bilateral arrangement is limited, for the most part, to its two signatories; however, multinational corporations operate in many countries. As a result, the corporations may engage in tax planning intended to "go beyond eliminating double taxation and to reduce tax to a minimum."[179] There are also more complicated arrangements made common by electronic curren-

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174. *Id.*

175. Michael J. Graetz, *Taxing International Income: Inadequate Principles, Outdated Concepts, and Unsatisfactory Policies*, 26 Brook. J. Int'l L. 1357, 1377 (2001).

176. Dean, *supra* note 169, at 608. The U.S. Model Income Tax Convention requires "such information as may be relevant for carrying out the provisions of this Convention or of the domestic laws of [that country] concerning taxes of every kind imposed by [that country] to the extent that the taxation thereunder is not contrary to the Convention." U.S. Model Income Tax Convention, Nov. 15, 2006, art. 26(1), *available at* http://www.treasury.gov/press-center/press-releases/Documents/hp16801.pdf.

177. *Id.*

178. *Id.*

179. Victor Thuronyi, *International Tax Cooperation and a Multilateral Treaty*, 26 Brook. J. Int'l L. 1641, 1651 (2001).

cies that bilateral agreements do not contemplate, or can handle only with great difficulty. For example, suppose that a taxpayer is a resident in State *A*, but has a bitcoin mining operation in State *B*, which pays a percentage of its mining rewards to miners in several states. The resident of State *A* could potentially also buy and sell widgets in bitcoin to residents of State *C*, perhaps even employing a resident of State *D* to build the widgets. It may be possible for each of these states to have sufficient bilateral arrangements such that all relevant tax information can be shared, but if any state involved is not a party to a bilateral arrangement with one or more of the other states, it could hinder the gathering of relevant information. The relative anonymity of bitcoin transactions provides an additional layer of mystery should a prospective taxpayer or resident choose not to disclose certain transactions. "Taxing authorities are perplexed over which country should have taxation rights in complex international electronic transactions,"[180] and the prospect of increased anonymity and lack of a paper trail facilitated by Bitcoin exacerbates that confusion.

Under a network of several bilateral treaties, universal coverage is almost impossible to achieve because each agreement requires significant time to negotiate, ratify, and, when major changes are required, amend. Smaller countries, including many of those considered tax havens,[181] may not have the resources necessary to create a patchwork of tax treaties, and

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180. Kyrie E. Thorpe, *International Taxation of Electronic Commerce: Is the Internet Age Rendering the Concept of Permanent Establishment Obsolete?*, 11 EMORY INT'L L. REV. 633, 634 (1997).

181. The Organisation for Economic Co-operation and Development ("OECD") uses four factors to determine whether a jurisdiction is a tax haven: "1) No or nominal tax on the relevant income;

2) Lack of effective exchange of information; 3) Lack of transparency; 4) No substantial activities. No or nominal tax is not sufficient in itself to classify a country as a tax haven." COUNTERING OFFSHORE TAX EVASION: SOME QUESTIONS AND ANSWERS ON THE PROJECT, OECD CTR. FOR TAX POL'Y & ADMIN. (Sept. 28, 2009), http://www.oecd.org/ctp/exchange-of-tax-information/42469606.pdf.

may determine that their limited resources are better used elsewhere.[182] Thus, "[o]nly under a multilateral treaty could the majority of developing countries hope to enter into an extensive tax treaty network. The current regime, therefore, effectively precludes countries with smaller economies from fully participating in the treaty network."[183] Without full participation by all the countries involved, incomplete information, treaty shopping, and delayed reactions to significant technological, political, or economic changes are inevitable.

While multilateral cooperation seems to be a mutually beneficial goal for nations interested in increasing tax efficiency, and thus economic efficiency, ceding sovereign rights to an international organization or agency seems a step too far for most states. Professor Michael Graetz notes that economic efficiency plays an important role in formulating policy, but "[a]s with domestic tax policy, the proper question is about the effects of international tax rules on the economic well-being, [and] welfare, of U.S. citizens and residents."[184] Ceding tax authority to an international body "would require a degree of international tax cooperation that may charitably be described as implausible,"[185] chiefly because "[m]ost nations continue to view their tax systems as an important component in pursuing socio-economic policies and wish to maintain laws and policies tailored to their national interest."[186] Since governments generally assert a need to protect their tax sovereignty, the Organisation for Economic Co-operation and Development ("OECD"), "which emphasizes multilateral deliberation and consensus-building through 'soft institutions,' may be the best available option" for

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182. Thuronyi, *supra* note 179, at 1656.

183. *Id*. at 1656.

184. Graetz, *supra* note 175.

185. Walter Hellerstein, *Jurisdiction to Tax Income and Consumption in the New Economy: A Theoretical and Comparative Perspective*, 38 GA. L. REV. 1, 45 (2003).

186. Cockfield, *supra* note 166.

nations to improve cooperation and information-sharing techniques while maintaining control over tax policy.[187]

C. The Bank Secrecy Act

Congress passed the Bank Secrecy Act in 1970.[188] It was the first set of laws designed to combat money laundering in the United States.[189] The BSA requires certain businesses to maintain records and report information that has "a high degree of usefulness in criminal, tax, and regulatory matters."[190] The report filings are used by domestic and international law enforcement agencies "to identify, detect and deter money laundering whether it is in furtherance of a criminal enterprise, terrorism, tax evasion or other unlawful activity."[191]

In July 2011, the BSA's definition of a "money transmission service" was amended to include "the acceptance of currency, funds, or other value that substitutes for currency from one person and the transmission of currency, funds or other value to another location or person by any means."[192] The BSA's definition likely qualifies most third-party Bitcoin services as money service businesses ("MSB"), requiring them to register with the Financial Crimes Enforcement Network ("FinCEN"), the U.S. Treasury Department's agency to combat money laundering. It also subjects them to examination for compliance with the BSA by the Internal Revenue Service.[193]

Under the BSA, a U.S. citizen, resident, or other person with a financial interest in one or more foreign financial accounts must file a Report of Foreign Bank and Financial Accounts ("FBAR") if "the aggregate value of the foreign financial ac-

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187. *Id.*
188. Peter E. Meltzer, *Keeping Drug Money from Reaching the Wash Cycle: A Guide to the Bank Secrecy Act*, 108 BANKING L.J. 230 (1991).
189. *Id.*
190. 31 U.S.C. § 5311 (2006).
191. Bank Secrecy Act Regulations; Definitions and Other Regulations Relating to Money Services Businesses, 31 C.F.R. § 1010 (2011).
192. FBI REPORT, *supra* note 34.
193. 31 C.F.R. § 1010.

counts exceeds [US]$10,000 at any time during the calendar year."[194] For the purposes of this report, a financial account includes a "securities, brokerage, savings, demand, checking, deposit, time deposit, or other account maintained with a financial institution (or other person performing the services of a financial institution)."[195] The BSA defines the term "financial institution" to include, inter alia, a currency exchange; a person who engages as a business in the transmission of funds; and "any business or agency which engages in any activity" determined by regulation to be "an activity similar to, related to, or a substitute for these activities."[196] Under this definition, U.S. citizens holding bitcoins in foreign accounts in amounts over US$10,000 are required to file FBAR reports.[197]

Bitcoin proponents tout anonymity and privacy as important reasons for the Bitcoin client's creation, but whether the program is truly anonymous, or even private, is subject to debate. Bitcoin's method of clearing payments—the peer-to-peer hashing that eliminates the need for third parties—is open to the public; that is, every transaction on the Bitcoin network is available for inspection by users, the public, and tax authorities.[198] There is no central database in which to find the owners—or even the wallets—attached to Bitcoin addresses; however, since the records of every transaction are public, "[o]fficials trying to identify a particular address will have a complete record of every address that's ever sent money to, or received money from, that address."[199] If those transacting ad-

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194. *Report of Foreign Bank and Financial Accounts (FBAR)*, IRS, http://www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Report-of-Foreign-Bank-and-Financial-Accounts-FBAR (last visited Dec. 30, 2013).

195. *Id.*

196. 31 U.S.C. §§ 5312(a)(2)(J), (R), (Y) (2006).

197. *Id.*

198. Blockexplorer.com, for example, allows any party to easily search the "blocks, addresses and transactions created by Bitcoin." BITCOIN BLOCK EXPLORER, http://blockexplorer.com/ (last visited Dec. 30, 2013).

199. Timothy B. Lee, *How Private Are Bitcoin Transactions?*, FORBES BLOG, (July   14,   2011,   9:31   AM),

dresses are within the jurisdiction of the authority, authorities can compel Internet providers and other businesses to "disclose details (IP addresses, shipping addresses, contact email address, etc.) that could help identify the address's owner."[200] While the information obtained in this fashion may be incomplete, it would provide relevant authorities with significant information with which to conduct "basic detective work," especially with respect to casual users of the Bitcoin client.[201] Similarly, the FBI concluded that "law enforcement can discover more information about, and in some cases identify, malicious actors, if the actors convert their bitcoins into a fiat currency."[202]

Despite the confines of online anonymity, Bitcoin allows a user to create an unlimited number of addresses from which one can send or receive coins, and it is "standard practice to use a new address for each incoming payment. This way, there's no link between different inbound transactions."[203] As automated transactions on the system become more prominent, sophisticated users will have the ability to increase the anonymity of their transactions and even provide comprehensive money laundering services.[204] The money laundering strategies "could probably be used with traditional currencies too," but Bitcoin makes automation of such illegal activity easier so that "users don't have to understand every detail of the interactions to use the system effectively."[205] However, at least one study has concluded that "it is possible to associate many public-keys with

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http://www.forbes.com/sites/timothylee/2011/07/14/how-private-are-bitcoin-transactions.

200. *Id.*

201. *Id.*

202. FBI REPORT, *supra* note 34.

203. Thomas Lowenthal, *Bitcoin: More Covert Than It Looks*, ACTIVE RHETORIC   (July   14,   2011), http://activerhetoric.wordpress.com/2011/07/14/bitcoin-more-covert-than-it-looks/.

204. *Id.*

205. *Id.*

each other, and with external identifying information," and that "large centralized services such as the exchanges and wallet services are capable of identifying and tracking considerable portions of user activity."[206] While time and technology will tell whether money laundering becomes an attractive prospect for Bitcoin users, one wishing to transact primarily in bitcoins will still need to buy tangible goods or exchange the bitcoins for local currency, each of which provides opportunities for relevant authorities to gather information about the purchaser.[207]

Taking the FBAR requirement for individuals and FinCEN registration for MSB together, U.S. law already regulates for most major transactions in bitcoin. What remains is to facilitate the enforcement of these laws on the expanded field of use on which Bitcoin operates. Currently, the exchange of information regarding tax evasion among nations "is sporadic, difficult, and unwieldy for tax administrators even under the best of circumstances. When a banking haven is the requested party, information exchange is nearly impossible."[208] Developing countries tend to avoid bilateral agreements as well, perhaps because of their lack of leverage with developed nations, causing a gap in information exchange between perceived tax havens and developed countries.[209]

D. The Multilateral Convention

There is one international agreement, to which the United States is a party, which aims to increase cooperation and compliance with respect to tracking tax evaders without requiring signatories to yield significant sovereignty rights over tax poli-

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206. Fergal Reid & Martin Harrigan, An Analysis of Anonymity in the Bitcoin System (May 7, 2012), http://arxiv.org/pdf/1107.4524v2.pdf.

207. Lee, *supra* note 199.

208. David Spencer, Cross-Border Tax Evasion and Bretton Woods II (Part 6), 20 J. Int. Tax 44.

209. Markus Meinzer et al., Tax Justice Network, Tax Information Exchange Arrangements (last updated June 3, 2009), http://www.taxjustice.net/cms/upload/pdf/Tax_Information_Exchange_Arrang ements.pdf.

cy. The Multilateral Convention covers all information needed for assessing and collecting taxes from both companies and individuals.[210] It has been signed by over forty countries, though it is only enforced by just over twenty.[211] In light of the increased difficulty in tracking tax evaders over the Internet, and the rapidly developing technology of Bitcoin and other electronic currencies, the United States should promote the Multilateral Convention as a method to increase the ability of its tax authorities to investigate tax evasion via Bitcoin.

The Multilateral Convention was created by the Council of Europe and the OECD.[212] It requires that contracting states provide administrative assistance in tax matters, namely, by providing exchange of information, assistance in recovery, and service of documents.[213] Exchange of information, the only compulsory aspect for signatories of the Convention, obliges contracting parties to provide information "foreseeably relevant for the administration or enforcement of . . . domestic laws concerning the taxes covered by [the] Convention."[214] Assistance in recovery requires that, unless a state enters a "reservation," it must use its domestic enforcement powers to help collect taxes owed to another state.[215] In short, unless a signatory has de-

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210. *Id.*

211. OECD, STATUS OF THE CONVENTION ON MUTUAL ADMINISTRATIVE ASSISTANCE IN TAX MATTERS AND AMENDING PROTOCOL (2012), *available at* http://www.oecd.org/ctp/exchangeofinformation/Status_of_convention.pdf.

212. OECD, REVISED EXPLANATORY REPORT TO THE CONVENTION ON MUTUAL ADMINISTRATIVE ASSISTANCE IN TAX MATTERS AS AMENDED BY PROTOCOL (2010), *available at* http://www.oecd.org/ctp/exchangeofinformation/Explanatory_Report_ENG_%2015_04_2010.pdf.

213. Karen B. Brown, *Allowing Tax Laws to Cross Borders to Defeat International Tax Avoidance: The Convention on Mutual Administrative Assistance in Tax Matters*, 15 BROOK. J. INT'L L. 59, 63 (1989).

214. Convention on Mutual Administrative Assistance in Tax Matters, Art. 4.1, 27 I.L.M. 1160 (1988), available at http://www.oecd.org/ctp/exchange-of-tax-information/ENG-Amended-Convention.pdf.

215. The United States has entered a reservation with respect to enforcing this provision. It reads: "The United States will not provide assistance in the

clared that they will not do so in advance, "the requested state must recover tax claims of another state against its own nationals."[216] Finally, service of documents requires that the requested state serve an addressee with documents related to a tax covered by the Convention.[217]

While the United States has cautiously elected not to enforce certain provisions of the Convention, it is the exchange of information provision, which it has agreed to implement, that is the most useful in piecing together information regarding illicit transactions and tax evasion in bitcoins. The IRS website lists over sixty income tax treaties,[218] more than the number of signatories to the Convention. But the Multilateral Convention has additional benefits, such as expanding "the class of persons that may be the subjects of administrative assistance" and providing in greater detail the types of information that must be exchanged for tax enforcement purposes, as well as the rules regarding the exchange of that information.[219]

Where most bilateral agreements vaguely provide for the voluntary exchange of information upon request, "the Multilateral [Convention] specifically provides for five types of information exchange, including the three types—exchange on request, routinely, or spontaneously—generally provided for in bilateral double taxation treaties and two optional types."[220]

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recovery of any tax claim, or in the recovery of an administrative fine, for any tax, pursuant to Articles 11 through 16 of the Convention (as permitted by paragraph 1.b of Article 30 of the Convention)." *List of Declarations Made with Respect to Treaty No. 127*, Council of Europe, http://conventions.coe.int/Treaty/Commun/ListeDeclarations.asp?NT=127&CV=1&NA=&PO=999&CN=999&VL=1&CM=9&CL=ENG (last visited Feb. 22, 2014) [hereinafter *Treaty No. 127 Declarations*].

216. Brown, *supra* note 213, at 63.

217. The United States has also entered a reservation with regard to this provision, which effectively limits the extent of U.S. cooperation to "service of documents by mail, pursuant to paragraph 3 of Article 17 of the Convention." *Treaty No. 127 Declarations*, *supra* note 215.

218. *United States Income Tax Treaties—A to Z*, *supra* note 170.

219. Brown, *supra* note 213, at 63.

220. *Id.*

The efficacy of these exchanges is increased in the Convention because they allow, within the limits of domestic law, "a treaty partner to employ administrative process on behalf of the other,"[221] and expand the individuals who can be investigated to include more parties.[222] Even more important, the Convention allows for information sharing with third-party nations if permitted by the original requesting state, an advanced level of collaboration not contemplated in bilateral agreements.[223] The information-sharing provision turns bilateral cooperation into multinational efforts without requiring an intricate web of treaties.

The two types of information exchange that are not typically included in bilateral agreements are simultaneous tax examination and tax examination abroad.[224] A simultaneous tax examination "is an arrangement by two or more countries to examine simultaneously and independently, each on its territory, the tax affairs of taxpayers (or a taxpayer) in which they have a common or related interest with a view to exchanging any relevant information."[225] Through simultaneous examinations, authorities in multiple jurisdictions are able to share information where "international tax avoidance and evasion is suspect-

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221. *Id.* at 81.
222. *Id.* at 76.
223. *Id.* at 63.

> Assume that the French government spontaneously transmits to the United States information indicating that a Swedish citizen and resident understated United States income tax liability. Receipt of that information causes the United States to suspect the possibility of understatement of income in Spain, Norway, and Denmark. On securing the permission of the French government, the United States may share the information with Spain, Norway, and Denmark.

Id.

224. *Id.*
225. OECD, Manual on the Implementation of Exchange of Information Provisions for Tax Purposes: Module 5 on Conducting Simultaneous Tax Examinations 4 (2006), *available at* http://www.oecd.org/ctp/exchangeofinformation/36648057.pdf.

ed."[226] They can also work together to avoid duplicating tax evasion proceedings and double taxation on suspected tax evaders.[227]

Similarly, the tax examination abroad procedure "operates by enabling tax administrations, when requested and to the extent allowable by its domestic law, to permit authorised tax officials of another country to participate in the conduct of tax examinations carried out by the requested country."[228] The process may involve passive cooperation, meaning that foreign officials may be limited to observation of interviews and liaising only with delegated officials, but foreign officials may also take a more active role in the investigations if domestic law allows.[229] Notably, the tax examination abroad provision could allow "the requested country to retain full control of the [investigative] process yet be freed from the cost and resource implications that it may otherwise face."[230] This would provide the United States with an opportunity to pursue those suspected of evading U.S. taxes across international borders with the cooperation of states that may not otherwise have the means to enforce stringent laws. The Convention will likely serve as a more effective compliance tool than a bilateral agreement because its specificity and strong language in tax administration, in comparison with that of a bilateral agreement, allow for a more comprehensive view of the relevant activities.[231] The U.S. government should focus on bringing the Multilateral Convention into force to reap the benefits of the Convention, which include allaying many of the concerns over the use of electronic currencies like Bitcoin.

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226. *Id.*

227. *Id.*

228. OECD, Manual on the Implementation of Exchange of Information Provisions for Tax Purposes: Module 6 on Conducting Tax Examinations Abroad   4   (2006),   *available   at* http://www.oecd.org/ctp/exchangeofinformation/36648066.pdf.

229. *Id.*

230. *Id.*

231. *Id.*

CONCLUSION

Bitcoin is a novel invention. It combines decentralized banking with the boundless marketplace that thrives on the Internet, while preserving significant privacy for its users. It allows for cash-like transactions between individuals with no intermediaries and without a political entity able to manipulate the money supply. It also has no exact parallel in tax law, which means that its status for income tax purposes is murky, and its potential for causing confusion in the enforcement of international tax laws grows exponentially with the open-source project's popularity. Still, the United States is well equipped to encapsulate Bitcoin into its tax regime should it wish to do so. The Bank Secrecy Act and the enforcement powers of the IRS already cover tax evasion, including most types of schemes involving bitcoins. The Bitcoin infrastructure may make tax evasion easier by putting it on a worldwide stage, and thus it may be more expensive for authorities to track down illegal activity, but law-abiding users of Bitcoin will see real benefits from the use of the electronic currency. The Convention on Mutual Administrative Assistance in Tax Matters can be a valuable tool for states to pool information and resources, thus eliminating some of those increased administrative costs. By acting early in Bitcoin's development, authorities can set precedent for future users to follow and become leaders in the facilitation of Bitcoin's legal use as an apolitical worldwide system of commerce.

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