

BITCOIN – A LEGAL ANOMALY: HOW VIRTUAL CURRENCIES AND CRYPTOCURRENCIES CHALLENGE TRADITIONAL LEGAL NOTIONS.

2015-05-24

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1 Introduction

“It’s completely decentralised with no server or central authority,”¹ was the way that Satoshi Nakamoto,² the pseudonym used by the creator of Bitcoin,³ described the cryptocurrency⁴ to the members of the cryptographers⁵ that were the first to witness the creation. Put simply, Bitcoin can be described as “[a] new digital, internet-based form of currency,” although this definition does not do justice to the mathematical complexity and ingenuity behind the creation and operation of the cryptocurrency.⁶ The most radical aspect of Bitcoin is that it is intentionally designed to operate outside the traditional banking structure. As such, people can send bitcoins directly to each other without the involvement of any intermediary parties such as banks, credit-card companies or payment processors and can do so without disclosing any personal information about themselves.⁷ Due to the anonymous, decentralised nature of Bitcoin transactions, a number of cases have already arisen with regards to its use, regarding taxation,⁸ money-laundering, narcotics trafficking⁹ and child pornography.¹⁰ It should be noted, however, that there are also a number of instances where Bitcoin

¹ P Vigna & MJ Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* (2015) 48.

² D Forrester & M Solomon *Bitcoin Exposed: Today’s Complete Guide to Tomorrow’s Currency* (2013) 11. Which also suggests that the pseudonym refers to a group, instead of an individual.

³ It is accepted practice to use “Bitcoin” when referring to the protocol, software and community and “bitcoin(s)” when referring to the units of the currency. Also note, that there are a number of different types of cryptocurrencies or virtual currencies, but for the purposes of this article, any legal discussion of “Bitcoin” or “bitcoins” will also be applicable to any similar cryptocurrency or virtual currency. Further, the terms “cryptocurrency” and “virtual currency” are used interchangeably, although strictly speaking, cryptocurrencies are more complex, whereas virtual currencies is a more general, encompassing term.

⁴ Investopedia “Cryptocurrency” *Investopedia* <<http://www.investopedia.com/terms/c/cryptocurrency.asp>> (accessed 20-05-2015). Defines cryptocurrency as: “A digital or virtual currency that uses cryptography for security.”

⁵ *American Heritage Dictionary of the English Language* 5th ed (2001). Defines cryptography as: “Any various mathematical techniques for encrypting and decrypting data in order to keep it private when transmitted or stored electronically.”

⁶ S Nakamoto “Bitcoin: A Peer-to-Peer Electronic Cash System” (24-05-2009) *bitcoin.org* <<https://bitcoin.org/bitcoin.pdf>> (accessed 20-05-2015). For the original paper by the creator of Bitcoin, which, although succinct, involves a combination of advanced programming, mathematics, information technology and cryptography.

⁷ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 45.

⁸ B Kelly *The Bitcoin Big Bang: How Alternative Currencies are about to Change the World* (2015) 8. There is an implicit assumption that the government is the ultimate enforcer of the money system for the sake of facilitating the process of taxation.

⁹ *United States of America v Ross William Ulbricht* 2014 14 Cr. 68 (KBF). This case is further discussed below.

¹⁰ Internet Watch Foundation “Annual Report 2014” (13-04-2015) *Internet Watch Foundation* <https://www.iwf.org.uk/assets/media/annual-reports/IWF_Annual_Report_14_web.pdf> (accessed 2015-05-20). The UK based charitable organisation identified a number of commercial child sexual abuse websites accepting bitcoins as payment.

has been utilised in a more beneficial and productive manner.¹¹ Furthermore, Kelly¹² suggests that the decentralised nature of Bitcoin could help prevent financial shocks by preventing failure at institutions tasked with central planning. Although the use of Bitcoin is relatively unheard of in developing countries such as South Africa, there are thousands of legitimate businesses that currently accept bitcoins as a form of payment, including: financial exchanges, IT service providers, supermarkets, digital artists, authors, pharmacies, insurers, lawyers, restaurants, cafes and charitable organisations, amongst many others.¹³

2 Challenging traditional notions of money, banking and taxation

By means of a “Bitcoin wallet,” one gains access to multiple “Bitcoin addresses,” which are what one would conventionally regard as accounts, because each Bitcoin address has a unique string of letters and numbers identifying it and its own balance of Bitcoins.¹⁴ Although it is possible for tax authorities to track the purchase of bitcoins with conventional money, inter-bitcoin transactions cannot be taxed if there is no record of the underlying transactions used to purchase the bitcoins in the first place, because if authorities do not know who is transacting with who, taxation becomes impossible.¹⁵ There is, however, a caveat in this regard; if the “private key” or password that is used to open a Bitcoin address,¹⁶ is somehow discovered and linked to a particular person, authorities will be able to trace every transaction ever made by that particular address. The reason for this is because the Bitcoin block chain,¹⁷ functions as a public ledger of all bitcoin transactions that have ever been executed. Because the Bitcoin block chain functions as a public ledger: the total amount of bitcoins in existence, the amount of bitcoins attributable to every account as well as the amount and Bitcoin address of the transferee and transferor of every transaction ever conducted by means of the system is publicly accessible in real-time.¹⁸ Thus Bitcoin offers a unique combination of privacy and transparency that makes it difficult to reconcile with the conventional idea of how taxation should work. At the heart of the taxation problem with regards to Bitcoin is that citizens, have given the government both the right to issue currency and the right to enforce its use.¹⁹ This means Bitcoin challenges to the monopoly²⁰ that national central banks have on the issuance of their respective fiat currencies;²¹ those currencies being the only acceptable means of paying taxes. The reason being, if an alternative means of exchange exists, other than circulating fiat currency, the extent of the use of that currency might be diminished if parties adopt Bitcoin to some or other extent, which may result in a country’s taxable base being diminished.

¹¹ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 6. A group called the Women’s Annex, which runs a digital literacy program, has seven thousand young Afghani women listed as contributors and pays them in Bitcoin for creating digital content; G Weiss “How the World’s First Bitcoin Charity is Harnessing the Cryptocurrency to Change Lives” (15-05-2015) *Entrepreneur.com* <<http://www.entrepreneur.com/video/245944>> (accessed 20-05-2015).

¹² B Kelly *The Bitcoin Big Bang: How Alternative Currencies are about to Change the World* (2015) 66-67.

¹³ “Trade” (15-05-2015) *Bitcoin Wiki* <<https://en.bitcoin.it/wiki/Trade>> (accessed 20-05-2015).

¹⁴ ME Peck “Bitcoin: The Cryptoanarchists’ Answer to Cash” (30-05-2012) *IEEE Spectrum* <<http://spectrum.ieee.org/computing/software/bitcoin-the-cryptoanarchists-answer-to-cash>> (accessed 20-05-2015).

¹⁵ Forrester & Solomon *Bitcoin Exposed: Today’s Complete Guide to Tomorrow’s Currency* 25.

¹⁶ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 123.

¹⁷ 68.

¹⁸ ME Peck “Bitcoin: The Cryptoanarchists’ Answer to Cash” *IEEE Spectrum*.

¹⁹ Kelly *The Bitcoin Big Bang: How Alternative Currencies are about to Change the World* 13.

²⁰ Section 14(1) of the South African Reserve Bank Act 90 of 1989. “The Bank shall have the sole right to issue or cause to be issued banknotes and coins in the Republic....”

²¹ M Mellor *The Future of Money: From Financial Crisis to Public Resource* (2010) 10. Fiat currencies are issued and guaranteed by an authority, such as a central bank and a government.

In future, the schism between traditional notions, and the accompanying legal frameworks associated with fiat money and the powers of Central (or Reserve) Banks and cryptocurrencies may give rise to legal questions or disputes. In future, whether the following roles of central banks should be theirs and theirs alone may have to be reconsidered, in light of the proliferation of cryptocurrencies and related technologies:²²

- The issuance of legal tender.
- Assisting in the settlement and clearance of balances.
- The formulation and implementation of monetary policy. The primary tool used in this regard is the discount, or rediscount rate which is lowered to make credit cheaper and raised to make credit more expensive. The former is usually employed when inflation is low or decreasing and the latter when inflation is high or increasing.

When compared with all the normal functions of fiat money, as facilitated by central banks, the functions of Bitcoin differs. Firstly, Bitcoin is not “issued” by a central authority, but rather is “mined”²³ by utilising specialised computers. The details of the Bitcoin mining process is complex, but put simply, it involves using computers to solve equations that become more and more complex the more processing power is dedicated to the Bitcoin system, in order to obtain “solutions,” or so-called “hash values,” which ultimately entitles miners to receive an amount of bitcoins.²⁴ Consequently, the power of creation of money is not conferred on a central bank under the authority of a government, but this power is, in effect, distributed according to the processing power deployed by, and the technological expertise of the participants in the Bitcoin system.

Secondly, the process of “mining” has another function, it facilitates joint recordkeeping of the public ledger, or block chain and also allows for the confirmation of transactions by the process of mining itself, by incentivising the transaction confirmation process by means of small transaction fees.²⁵ This means that settlement and clearance of transactions is decentralised and distributed across the Bitcoin network and also means that there is no discrimination or favoured treatment. In other words, even if the majority of processing or “mining” capability is situated in a particular country, the transactions of all Bitcoin participants globally are treated equally in their settlement and clearance, no matter the location of transferee or transferor.

Thirdly, although Bitcoin has been designed to allow for the creation of new bitcoins by means of a process called “mining,” a total finite supply of 21 million bitcoins²⁶ is all that will ever be available and this amount cannot be increased in any way. In contrast, commercial banks, by means of the process known as fractional reserve banking,²⁷ can lend more money than they have on deposit. In other words, fractional reserve banking facilitates a system whereby more “claims on money” can be created than the actual physical amount of money in the system. The creation of Bitcoins, is both decentralised and “capped,” whereas, in a fiat money system, a central bank has a great degree of control over the process of money creation by commercial banks; by lowering or raising its discount

²² J Singleton *Central Banking in the Twentieth Century* (2011) 5-9.

²³ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 47. The process of mining bitcoins involves “[solving] a randomly generated, mathematically complex puzzle....”

²⁴ Kelly *The Bitcoin Big Bang: How Alternative Currencies are about to Change the World* 82-83.

²⁵ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 118.

²⁶ 69; Forrester & Solomon *Bitcoin Exposed: Today's Complete Guide to Tomorrow's Currency* 14; Board of Governors of the Federal Reserve System “How much U.S currency is in circulation?” *Board of Governors of the Federal Reserve System* (04-05-2015) <http://www.federalreserve.gov/faqs/currency_12773.htm> (accessed 22-05-2015). On the face of it, 21 million seems like a small number for a means of exchange, but note that bitcoins are divisible in fractions as small as 1/100, 000, 000. This means that, theoretically speaking, there are 12×10^{13} units of exchange in the Bitcoin system. This can be compared with the amount of U.S dollars in circulation which amounts to 13×10^{10} .

²⁷ Mellor *The Future of Money: From Financial Crisis to Public Resource* 36.

and rediscount rates, and by conducting open-market operations, such as Quantitative Easing “QE”, a central bank can inject an indefinite amount of money into the system.²⁸ In contrast, the blockchain permits only credit entries which means it is not possible to spend more bitcoins than one has in a Bitcoin address and consequently, it is not possible to have a debit balance in a Bitcoin address or for there to be more “claims” on bitcoins than there are bitcoins in the system.

2 Some of the most publicised international cases involving the use of Bitcoin

2.1 The Silk Road

When the Silk Road Marketplace fell, the American FBI agency called it: “the most sophisticated and extensive criminal marketplace on the Internet.” As one author puts it, the Silk Road was akin to the eBay for illicit drugs.²⁹ Ross William Ulbricht, known on the site by the pseudonym “Dread Pirate Roberts,” administrated the site, and eventually ended up in an American court on charges of conspiring to violate narcotics laws, engaging in a continuing criminal enterprise, computer hacking conspiracy as well as money laundering conspiracy.³⁰ The Ross Ulbricht case³¹ (also known as the Silk Road case) is the most publicised case involving the use of Bitcoin to date. In its two years of existence, the Silk Road is estimated to have generated sales in bitcoins equivalent to \$1.2 billion (which amounts to over R14 billion in terms of current exchange rates).³² The Silk Road was only accessible by means of an application called Tor,³³ which enables users to access the Deep Web.³⁴ In effect, Tor enables parties to remain anonymous whilst on the Internet, and also enables access to hidden services, or sites that cannot be reached by using conventional search engines.³⁵

The fact that the Silk Road managed to remain operational for such lengthy period can partly be attributed to the Silk Road only being accessible by means of Tor, which made viewing and accessing the site anonymous and partly due to Bitcoin, which made making and receiving payments for drugs on the site anonymous and cut out any intermediaries that may have notified authorities. It is not impossible, by means of the application of enough skill and expertise,³⁶ to trace persons that make use of Tor and Bitcoin to sell and purchase drugs on marketplaces such as the Silk Road, but many other such marketplaces are beginning to spring up,³⁷ and if the technology in question continues to become more common and accessible to the average person,³⁸ enforcing absolute prohibition may become

²⁸ Singleton *Central Banking in the Twentieth Century* 6 40-41;

²⁹ M Barrat “Silk Road: eBay for drugs” (2012) 107 *Addiction* 683 683.

³⁰ *United States of America v Ross William Ulbricht* 2014 14 Cr. 68 (KBF) 7 14 22 33.

³¹ Above.

³² L Franceschi-Bicchierai “The Silk Road Online Marketplace by the Numbers” (04-08-2013) *Mashable* <<http://mashable.com/2013/10/04/silk-road-by-the-numbers/>> (accessed 21-05-2015).

³³ TorProject “Tor: Overview” *Tor* <<https://www.torproject.org/about/overview.html.en>> (accessed 21-05-2015). The Tor application allows one to access the Tor network, which is a group of volunteer-operated servers, which essentially mask a user’s location and identity by connecting through a series of virtual tunnels instead of making a direct connection.

³⁴ MK Bergman “The Deep Web: Surfacing Hidden Value” (2001) 7(1) *Journal of Electronic Publishing* 1 1. In the simplest terms, the Deep Web represents that part of the Internet which conventional search engines are unable to penetrate. See the reference for a more detailed and technical explanation of the difference between the “Deep Web” and the “Surface Web.”

³⁵ TorProject “Configuring Hidden Services for Tor” *Tor* <<https://www.torproject.org/docs/tor-hidden-service>> (accessed 21-05-2015).

³⁶ M Power “Life after Silk Road: how the darknet drugs market is booming” (30-05-2014) *The Guardian* <<http://www.theguardian.com/technology/2014/may/30/life-after-silk-road-how-the-darknet-drugs-market-is-booming>> (accessed 21-05-2015).

³⁷ AgoraDrugs “How to Find Agora Drug Market and Stay Anonymous” *AgoraDrugs* <<http://www.agoradrugs.com/agora-market-guide/>> (accessed 21-05-2015).

³⁸ M Power “Life after Silk Road: how the darknet drugs market is booming” (30-05-2014) *The Guardian* <<http://www.theguardian.com/technology/2014/may/30/life-after-silk-road-how-the-darknet-drugs-market-is-booming>> (accessed 21-05-2015).

either impossible or too expensive, which will likely, in future, necessitate an alternative legal approach to drug enforcement.

2 2 The Mt. Gox Exchange

The Mt. Gox was a Japan-based Bitcoin exchange that launched in 2010 and operated until its operations were halted in 2014 and finally filed for bankruptcy.³⁹ Mt. Gox claimed that it was subject to hacking, and “due to a weakness in the system,” bitcoins were “skimmed” off over prolonged period. Finally, around 850 000 bitcoins were stolen due to the flaw in the system, and with the average bitcoin price at around \$850 (R10 000) at the time,⁴⁰ it means the total losses in fiat currency terms amounted to, more or less, \$720 million (R8 billion). A class-action lawsuit was brought against Mt.Gox alleging fraud, negligence, breach of fiduciary duty, breach of contract and unjustified enrichment.⁴¹ Finally, the lawsuit was settled; with the exchange’s remaining bitcoins and cash being distributed amongst the plaintiffs and the exchange being sold, with a 16.5% interest in the exchange also being distributed amongst the plaintiffs.

2 3 The Assassination Market

The website called the “Assassination Market” is a crowdfunding service⁴² that allows any person to contribute bitcoins towards a bounty on the head of a number of persons.⁴³ Essentially this site alleges to collect bitcoins from the public, which are supposed to serve as a “bounty” that would-be killers supposedly can collect if they end the lives of amongst others, Barack Obama and Ben Bernanke, the ex-Governor of the American Federal Reserve (central bank). It is possible that the site is just an elaborate scam and that its creators do not intend to pay out any bounties, but the fact that any party is able, due to the anonymous nature of Bitcoin and other virtual currencies, to purport to solicit funds from the public for the purpose of putting bounties on the heads of prominent public figures, without facing immediate repercussions, raises a number of legal and ethical questions.

3 Selected legal issues regarding Bitcoin in South African law

3 1 Peer-to-peer bitcoin-lending platforms and the Financial Advisory and Intermediary Services Act

A number of platforms have arisen that enable peer-to-peer bitcoin loans and investments to be concluded between parties, such as “BTCjam” and “Bitbond.”⁴⁴ Peer-to-peer platforms⁴⁵ are in no

³⁹ R McMillan “The Inside Story of Mt.Gox, Bitcoin’s \$460 Million Disaster” (03-03-2014) *Wired* <<http://www.wired.com/2014/03/bitcoin-exchange/>> (accessed 22-05-2015).

⁴⁰ C Fuller “MtGox Boss Sued For Bitcoin Losses” (04-03-2014) *Investing.com* <<http://www.investing.com/news/economy-news/mtgox-boss-sued-for-bitcoin-losses-270031>> (accessed 23-05-2015).

⁴¹ *Greene v MtGox Inc* 2014 1:14-cv-1437 14 18 20 21 23.

⁴² Investopedia “Crowdfunding” *Investopedia* <<http://www.investopedia.com/terms/c/crowdfunding.asp>> (accessed 22-05-2015). Defines crowdfunding as: “the use of small amounts of capital from a large number of individuals to finance a new business venture.”

⁴³ A Greenberg “Meet the ‘Assassination Market’ Creator Who’s Crowdfunding Murder With Bitcoins” (11-18-2013) *Forbes* <<http://www.forbes.com/sites/andygreenberg/2013/11/18/meet-the-assassination-market-creator-whos-crowdfunding-murder-with-bitcoins/>> (accessed 22-05-2015).

⁴⁴ For “Bitbond,” see <<https://www.bitbond.com/>> and for “BTCjam” see <<https://btcjam.com/>> (accessed 2015-05-20). Bitbond offers dollar-denominated bitcoin loans and investments whereas BTCjam merely facilitates pure bitcoin to bitcoin transactions.

⁴⁵ Investopedia “Peer-to-peer lending (P2P)” *Investopedia* <<http://www.investopedia.com/terms/p/peer-to-peer-lending.asp>> *Investopedia* (accessed 20-05-2015). Defines a peer-to-peer loan as: “a method of debt financing that enables individuals to borrow and lend money without the use of an official financial institution as an intermediary.”

way involved in the underlying agreements concluded between their customers and furthermore do not involve financial institutions as intermediaries. In terms of South African law, peer-to-peer platforms will either have to comply with the Financial Advisory and Intermediary Services Act, or not, depending on the type of the service rendered, due to the nature of Bitcoin and virtual currencies and the limited definition of a “financial product” in terms of the Act.⁴⁶ The Act defines an intermediary service as “any act... performed by a person for on behalf of a client... with a view to... keeping in safe custody... a financial product... in which the client has invested.” The Act further defines a financial product as “a foreign currency denominated investment instrument.”⁴⁷

Bitcoins that are, for example, denominated in dollars when sold, lent or invested on peer-to-peer platforms, will comply with the above definition of a financial product. All peer-to-peer Bitcoin platforms, whether denominated in any particular currency or not, create loan listings which have a certain expiry date, and each loan can be funded fully by a single party or partially by multiple parties. When a party wishes to fund a loan, they submit their bitcoins to the platform and if a loan is fully funded, or the expiry date on the loan listing is reached and a certain threshold of funding has been reached (60%), the bitcoins are paid out by the platform to the borrower. This service that the platforms render will comply with the abovementioned definition of an intermediary service in terms of the Act, if their bitcoin loans or investments are denominated in a foreign currency, because then one will be able to define those bitcoin loans or investments as “a foreign currency denominated investment instrument.” Peer-to-peer, foreign-currency denominated Bitcoin platforms can therefore be considered as financial intermediaries because the “investment instruments,” or bitcoins involved in their service are denominated in a foreign currency and they “keep in safe custody” these “investment instruments” until specific loan listings are either fully funded or until they expire. Consequently, platforms that render a Bitcoin-service of this nature will have to be licensed under section 8 of the Act,⁴⁸ and comply with the other requirements set in the Act⁴⁹ for financial intermediaries, in order to legally facilitate foreign-currency denominated peer-to-peer bitcoin loans or investments.

However, the Act seems to leave some leeway. If a local rand-denominated, or purely Bitcoin-based peer-to-peer platform were to arise, the “foreign-denominated investment instrument” definition will no longer be applicable, because on the face of it, neither Bitcoin nor cryptocurrencies in general seem to fall under any of the other definitions of “financial product” provided for in terms of the Financial Advisory and Intermediary Services Act, or “securities” in terms of the Securities Services Act.⁵⁰ Thus it is suggested that the process provided for in section 1 of the Financial Advisory and Intermediary Services Act⁵¹ should be utilised in order to include in the definition of financial product “any cryptocurrency or virtual currency of any type or complexity whatsoever,” if the regulators wish to bring peer-to-peer platforms that deal with undenominated bitcoins or bitcoins denominated in rand within their regulatory ambit. This process provided for in the Act, permits the Registrar of Financial Services Providers,⁵² after consultation with the Advisory Committee, by notice in the *Gazette*, to declare any product similar in nature to any definition of financial product mentioned in the Act to be a financial product for the purposes of the Act. Such an addition to the definition, as mentioned will be wide enough to ensure that any intermediary, or advisory services with regards to virtual currencies presently currently in existence, as well as any future developments in the field, will be subject to the provisions of the Act .

⁴⁶ The Financial Advisory and Intermediary Services Act 37 of 2002.

⁴⁷ Above.

⁴⁸ Section 8 of the Financial Advisory and Intermediary Services Act.

⁴⁹ Section 17-19 of the Financial Advisory and Intermediary Services Act. Which involves the appointment of a compliance officer, the maintenance of records as well as specific accounting and audit requirements.

⁵⁰ The Securities Services Act 36 of 2004.

⁵¹ The Financial Advisory and Intermediary Services Act.

⁵² Section 2 of the Financial Advisory and Intermediary Services Act.

Some may possibly raise the argument that bitcoins themselves can be defined as a “foreign currency,” with the result that the Act in its present state will apply to undenominated bitcoin loans and investments. The normal definition of foreign is:⁵³ “in or from a country that is not your own,” and the legal definition of foreign is:⁵⁴ “that which belongs to, or operates in accordance with, another nation, territory, state, or jurisdiction...” When one considers the nature of the Bitcoin system, one might conclude that is “foreign” in the descriptive sense, as it is not known or used by the typical or average person, but when one considers the legal definition of “foreign” and nature of Bitcoin system, in that it is effectively distributed across the computer systems of all its participants and the Internet, including participants situated in South Africa, it is difficult to come to the conclusion that Bitcoin is “foreign,” without also concluding that the Internet itself and the technology employed by the Bitcoin system is also “foreign.” The normal definition of currency, on the other hand, is:⁵⁵ “the system of money that a country uses.” Currency in the normal sense therefore refers to the legal tender issued by national central banks, and because Bitcoin is neither an official, nor a national means of exchange of any country, it will therefore not comply with the definition of currency in its usual sense. The legal definition of currency, however, includes:⁵⁶ “bank notes, bills, cash, circulating medium, coin, government notes, hard cash, legal tender, medium of exchange...” Because Bitcoin serves as a “means of exchange,” it can be defined as a “currency” in the legal sense, but not as a “foreign currency,” because it is not linked to any specific “nation, territory, state or jurisdiction,” in other words, because its recognition as a means of exchange is global it cannot be “foreign.” Consequently, although Bitcoin can, in the legal sense, be defined as a “currency,” it cannot be defined as a “foreign currency” for the purposes of the Financial Advisory and Intermediary Services Act.

3 2 Bitcoin Exchanges

A Bitcoin Exchange works by permitting users to open an account with the exchange, in which the user will then either deposit bitcoins or any type of fiat currency. The user is then able to either purchase bitcoins with fiat currency, or purchase fiat currency with bitcoins. There are a number of Bitcoin-exchanges operating in South Africa, such as ICE³X, Bitx and AltCoinTrader.⁵⁷ The legal principles discussed above regarding peer-to-peer platforms utilising bitcoins will apply similarly to these Bitcoin-exchanges. Therefore, if any of these exchanges conduct “any act... for on behalf of a client... with a view to... keeping in safe custody... a financial product... in which the client has invested,” they will be conducting an intermediary service in terms of the Act.⁵⁸ It should be remembered however, that as concluded above, a financial product, for the purposes of the Act, will include only bitcoins denominated in a foreign currency, but not undenominated bitcoins (which will involve trading between different types of virtual currencies) nor bitcoins denominated in rands. Bitx and AltCoinTrader appear to offer exchange services that are only conducted in rands, which means these products do not comply with the definition of a financial product, which in turn means that they are not conducting an intermediary service, and therefore they need not be licensed in terms of the Act.⁵⁹ ICE³X, on the other hand, offers to exchange bitcoins that are denominated in a number of foreign currencies, including pounds, dollars and naira as well as rands. Because the Act defines a financial product as “a foreign currency denominated investment instrument,” these foreign currency denominated bitcoins could fall within the definition of a financial product, and because this particular

⁵³ *Oxford Advanced Learner’s Dictionary* (2005) 582.

⁵⁴ *West’s Encyclopedia of American Law* 2ed (2008). Retrieved from <<http://legal-dictionary.thefreedictionary.com/foreign>> (accessed 21-05-2015).

⁵⁵ *Oxford Advanced Learner’s Dictionary* 359.

⁵⁶ *Burton’s Legal Thesaurus* 4ed (2007). Retrieved from <<http://legal-dictionary.thefreedictionary.com/currency>> (accessed 21-05-2015).

⁵⁷ See <<https://ice3x.co.za/>>, <<https://bitx.co/>>, and <<https://www.altcointrader.co.za/>> (accessed 21-05-2015).

⁵⁸ The Financial Advisory and Intermediary Services Act.

⁵⁹ Above.

exchange “[keeps] in safe custody... financial product[s]... in which [a] client has invested,” it is in fact conducting an intermediary service. This means that the ICE³X Bitcoin exchange should be licensed in terms of the Financial Advisory and Intermediary Services Act,⁶⁰ when it comes to its exchange of foreign currency denominated bitcoins. When one considers the failures of specific Bitcoin Exchanges such as Mt.Gox and the subsequent losses imposed on participants, the need for some type of oversight over these types of financial facilities becomes quite apparent.

3 3 Bitcoin, the Exchange Control Regulations and the Financial Intelligence Centre Act

Whereas the Financial Advisory and Intermediary Services Act does not contain a specific definition of “foreign currency” which forces one to look to the usual and legal definition in order to ascertain the meaning for the purposes of the Act, the South African Exchange Control Regulations,⁶¹ (hereinafter “the Regulations”) does indeed contain a specific definition. It defines foreign currency as: “any currency which is not legal tender in the Republic, and includes any bill of exchange, letter of credit, money order, promissory note, traveller’s cheque or any other instrument for the payment of currency payable in a currency unit which is not legal tender in the Republic.” Because the legal definition of a currency includes a “medium of exchange,” which Bitcoin functions as, and because Bitcoin “is not legal tender in the Republic,” one can conclude that Bitcoin will function as a foreign currency, for the purposes of the Exchange Control Regulations. However, it is also possible to construe the definition of foreign currency in such a way that Bitcoin will not fall within the ambit of the Regulations. When the Regulations state “not legal tender in the Republic,” it may imply that it refers to currencies are not legal tender in the Republic, but are legal tender. In this regard, legal tender is most simply defined as “all money issued by the government.”⁶² If one finds that the definition of foreign currency in terms of the Regulations refers to currency “which is not legal tender in the Republic” but is legal tender elsewhere, it means Bitcoin will not be definable as foreign currency for the purposes of the Exchange Control Regulations.

Whether or not one finds that Bitcoin can be regulated by the Regulations, the anonymous, intermediary-free nature of Bitcoin itself poses a number of problems with regards to enforcement of any capital controls. Speaking of digital currencies, Cornell University professor and former IMF economist, Eswar Prasad states that: “national borders are not going to have much meaning anymore [and] the walls that countries try to put up around capital inflows and outflows [are] going to disappear very, very quickly.”⁶³ This statement seems to ring true. When one considers that it is theoretically possible to use a local bank account to purchase bitcoins from an international exchange, that is situated in a country that requires no identification when it comes to financial transactions; it is quite possible to transfer all one’s funds in fiat currency to bitcoins in this manner, without any intermediary such as a bank’s involvement, and then to abscond from the country, with stolen money, without paying taxes or without complying with any exchange regulations, and then to reconvert one’s bitcoins to a fiat currency in one’s country of destination. Taking this hypothetical scenario into account, as well as the Financial Intelligence Centre Act,⁶⁴ (“FICA”) which largely aims to prevent money laundering and financing of illicit activities by imposing obligations on financial intermediaries, one can conclude that Bitcoin and virtual currencies, which enable transactions to be

⁶⁰ Section 8 of the Financial Advisory and Intermediary Services Act.

⁶¹ The Exchange Control Regulations in GN R 1111 of 01-12-1961 as amended up to GN R 9 in GG 7356 of 14-01-2011 .

⁶² G Hill & K Hill *The People’s Law Dictionary* (2005). Retrieved from <<http://dictionary.law.com/Default.aspx?selected=1135>> (accessed 23-05-2015).

⁶³ Vigna & Casey *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order* 291.

⁶⁴ The Financial Intelligence Centre Act 38 of 2001.

conducted without the involvement of any financial intermediaries, undermine the very purpose of FICA and the way in which the Act seeks to go about achieving that purpose.

4 Comparative Legal Treatment of Virtual Currencies

4.1 The United States of America

The United States Department of the Treasury Financial Crimes Enforcement Network issued a guidance document⁶⁵ concerning the application of the body's regulations to persons administering, exchanging or using virtual currencies. The guidance defines a convertible, decentralised virtual currency as: a virtual currency "that has no central repository and no single administrator, and that persons may obtain by their own computing or manufacturing effort." A number of statements in the guidance merit mention, which include that:

- Virtual currencies do not meet the criteria to be considered a "currency" under the "Bank Secrecy Act"⁶⁶ because they are not legal tender, which means that a person who accepts real currency in exchange for virtual currency is not a dealer in foreign exchange in terms of the regulations.
- Persons that create units of convertible virtual currency (in other words, the "mining" of bitcoins) and use it to purchase real or virtual goods and services will not be subject to regulation, however, persons that create units of convertible virtual currency and sell those units to other persons for real currency, will be subject to regulation as a money transmitter.

The New York State Department of Financial Services published a document containing proposed codes, rules and regulations,⁶⁷ for the purposes of establishing its regulatory scope with regards to virtual currencies, defines a virtual currency business activity as:

- Receiving virtual currency for transmission or transmitting the same.
- Securing, storing, holding or maintaining custody or control of virtual currency on behalf of others.
- Buying and selling virtual currency as a customer business.
- Converting fiat currency or other value into virtual currency or *vice versa*.
- Controlling, administering, or issuing a virtual currency.

4.2 The European Union

The European Central Bank (the "ECB") has identified three categories of virtual currencies:⁶⁸

- Closed virtual currency schemes, which have no link to the real economy, and are essentially the means of exchange used in games. However, there are instances of real money being used to purchase "in-game" money,⁶⁹ which means, theoretically speaking, one could, for example, use rands to purchase an in-game currency and then use that currency to purchase dollars, thereby circumventing certain exchange regulations.
- Virtual currency schemes with unidirectional flow, which can be purchased using real currency, but cannot be exchanged back to the original currency.

⁶⁵ Department of the Treasury Financial Crimes Enforcement Network Guidance 2013 FIN-20 13-G00 1.

⁶⁶ The Currency And Foreign Transactions Reporting Act 31 U.S.C. § 321.

⁶⁷ New York State Department of Financial Services "Virtual Currencies" *New York State Department of Financial Services* <<http://www.dfs.ny.gov/about/press2014/pr1407171-vc.pdf>> (accessed 25-05-2015).

⁶⁸ European Central Bank "Virtual Currency Schemes" (31-10-2012) *European Central Bank* <http://www.ecb.europa.eu/pub/pdf/other/virtual_currency_schemes201210en.pdf> (accessed 21-05-2015) 14-15.

⁶⁹ A Dumitrescu "Blizzard introduces WoW token for secure World of Warcraft Gold Transactions" (02-03-2015) *Softpedia* <<http://news.softpedia.com/news/Blizzard-Introduces-WoW-Token-for-Secure-World-of-Warcraft-Gold-Transactions-474671.shtml>> (accessed 21-05-2015).

- Virtual currency schemes with bidirectional flow, which can be bought and sold according to exchange rates with any currency. Therefore, in terms of the ECB's categories, Bitcoin would be classified as a virtual currency scheme with bidirectional flow.

The ECB mentions that the legal basis of a payment system consists of:⁷⁰ framework legislation, specific laws, regulations and agreements governing both payments and the operation of the system. When one considers Bitcoin and virtual currencies in general, there is no legislation, or definitions that directly deal with the matter, and consequently one has to conclude that an adequate legal basis for Bitcoin as a payment system does not exist. The ECT further mentions that that "governments and central banks would face serious difficulties if they tried to control or ban any virtual currency scheme." In this regard, the mentions a number of EU Directives,⁷¹ and concludes that virtual currencies fall outside their ambit. This statement seems to ring true; it is seriously questionable whether a ban on Bitcoin in a particular jurisdiction, for example, would be enforceable even to a minimal extent, and consequently, if prohibition is unenforceable, an alternative legal approach would be necessary. Although the EU has not yet introduced legislation specifically dealing with virtual currencies, the issue has been raised by the European Commission's Payments Committee.⁷²

The European Banking Authority's (the "EBA") definition of a virtual currency⁷³ is one of the widest provided for by any institution; and defines it as: "a digital representation of value that is neither issued by a central bank or public authority nor necessarily attached to a fiat currency, but is used by natural or legal persons as a means of exchange and can be transferred, stored or traded electronically." The EBA further mentions a number of potential benefits of virtual currencies, including:⁷⁴

- Lower transaction costs, for example costs as low as 1% versus 2-4% for traditional online payment systems. The EBA, however mentions that transactions costs may increase in future if virtual currencies become regulated due to compliance costs.
- Faster settlement times, for example, Bitcoins can be processed between ten and sixty minutes and takes place on a 24/7 basis, whereas traditional payment mechanisms can take much longer, especially if developing countries are involved.
- Virtual currencies may allow persons in developing nations with high-risk financial systems to engage in international mercantile exchange much more effectively.
- Security of personal data, in that virtual currencies do not require the provision of personal data unlike credit cards for example.
- Limited interference by public authorities, especially where specific governments or central banks may, for political gain, abuse the supply of money denominated in that currency.

The EBA also mentions a large number of risks that virtual currencies pose to users, including:⁷⁵ technological risks as well as legal, compliance and regulatory risks. Finally, the EBA, taking account the nature of virtual currencies, as well as the benefits and risks associated with their use, suggests a potential regulatory approach regarding virtual currencies for the long term, which involves the creation of a non-governmental entity that will be responsible for establishing and governing the rules for the use of virtual currency schemes,⁷⁶ which is therefore similar to the South

⁷⁰ European Central Bank "Virtual Currency Schemes" (31-10-2012) *European Central Bank* <http://www.ecb.europa.eu/pub/pdf/other/virtual_currency_schemes201210en.pdf> (accessed 21-05-2015) 14-42.

⁷¹ The Payment Services Directive (2007/64/EC) of the European Parliament and of the Council of 13 November 2007; the Electronic Money Directive (2009/110/EC) of 16 September 2009.

⁷² European Central Bank "Virtual Currency Schemes" (31-10-2012) *European Central Bank* <http://www.ecb.europa.eu/pub/pdf/other/virtual_currency_schemes201210en.pdf> (accessed 21-05-2015) 14-43.

⁷³ European Banking Authority "EBA Opinion on 'virtual currencies'" (04-06-2014) *European Banking Authority* <<http://www.eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf>> (accessed 22-05-2015) 11.

⁷⁴ 16-19.

⁷⁵ 23-29.

⁷⁶ 39.

African “.za Domain Name Authority” (“ZADNA”) as provided for by the Electronic Communications and Transactions Act.⁷⁷ The EBA aptly points out that the reason a non-governmental entity would be appropriate is because “governance authorities [that require the involvement of a central bank or government] appear incompatible with the conceptual origins of virtual currencies as a decentralised scheme.”⁷⁸ In this regard, South African legislators could possibly consider expanding the scope of the Domain Name Authority to create a “Virtual Authority,” that would continue to have the same function with regards to Domain Names, but would also be responsible for establishing and governing the rules for the use of virtual currency schemes.

4.3 Hong Kong and China

In an official statement, Hong Kong’s Secretary for Financial Services and the Treasury stated that “the government does not see a need to introduce legislation to [specifically] regulate virtual commodities trading or to prohibit people from participating in such activities.”⁷⁹ In the statement the Secretary mentions that Hong Kong’s legislation in its current state is adequate to deal with unlawful financial activities, whether or not virtual currencies are involved. In this regard, the country’s Securities and Futures Ordinance⁸⁰ is relevant, which deals with financial matters in great depth.

China is home to the BTC China, the Bitcoin Exchange with the highest volume of bitcoin trading globally, which implies that Bitcoin is very popular in the country.⁸¹ Although it is, at present not illegal for private individuals to purchase and trade in bitcoins in China, the People’s Bank of China, (the Chinese central bank) which is responsible for regulating financial institutions in the country, has classified Bitcoin as a “virtual good,” which prevents Bitcoin from being legally construed as a “currency” and has also banned financial institutions and third-party payment processors (banks) from dealing with Bitcoin exchanges.⁸² The result is that Bitcoin Exchanges in China are unable to open bank accounts and therefore unable to receive deposits in fiat currency from private individuals. As such, the position in mainland China regarding Bitcoin is that private individuals are free to transfer their fiat currency to bitcoins and back again, but domestic Bitcoin Exchanges are effectively banned from accepting the domestic fiat currency (yuan or renminbi as the Chinese currency is called) for the purposes of exchanging it for bitcoins. The thinking behind the operation of this ban might be as follows: the Chinese government does not wish to ban Bitcoin outright because perhaps it believes that the virtual currency may have some value, but it also does not wish for Bitcoin to undermine its domestic currency; and for that reason, the government effectively bans the conversion of yuan to bitcoin. However, it is still theoretically possible for Chinese citizens to take their yuan, convert it to another currency; Hong Kong dollars for example, and then to purchase bitcoins with those dollars. By adopting a pragmatic legal approach, Chinese regulators have prevented the virtual currency from becoming a risk to their domestic currency, without resorting to an outright ban.

5 Conclusion

A number of traditional legal notions that are challenged by the advent of virtual currencies and cryptocurrencies have been identified. The importance and role of financial intermediaries may, in

⁷⁷ Section 59 of the Electronic Communications and Transactions Act 25 of 2002.

⁷⁸ European Banking Authority “EBA Opinion on ‘virtual currencies’” (04-06-2014) *European Banking Authority* <<http://www.eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf>> (accessed 22-05-2015) 40.

⁷⁹ News.gov.hk “Bitcoin regulation not needed” (25-03-2015) *News.gov.hk* <http://www.news.gov.hk/en/categories/finance/html/2015/03/20150325_150920.shtml> (accessed 23-05-2015).

⁸⁰ The Securities and Futures Ordinance (Cap 571).

⁸¹ J Southurst “Why China is Leading the Global Rise of Bitcoin” (18-11-2013) *CoinDesk* <<http://www.coindesk.com/china-leading-global-rise-bitcoin/>> (accessed 22-05-2015).

⁸² A Tanzarian “Legal Basics: Bitcoin in China” (10-05-2014) *The CoinTelegraph* <http://cointelegraph.com/news/111753/legal_basics_bitcoin_in_china> (accessed 22-05-2015).

future may diminish or change. The premise that government authorities should issue money and control its value is brought into question. The idea that authorities have the final say in when and how much money can leave a country becomes almost indefensible.

Although one may argue that virtual currencies have undermined the rule of law, and have fostered criminal activity; the rise of virtual currencies as a means of exchange has perhaps planted the seed for a neo-free-market system, where prices are determined solely by supply and demand and capital is free to flow wherever it can generate the greatest return, free from the interference of governments. And perhaps a virtual currency usable by anyone, anywhere, no matter their nationality will set the stage for a single, global currency, and a more unified, less divisive world.