

VIRTUAL CURRENCIES: RISKS AND REGULATIONS IN MALTA AND OTHER JURISDICTIONS

Dr Charles Cassar

ABSTRACT

Virtual currencies, in particular Bitcoin, have started to attract significant attention, following significant value fluctuations and a number of high profile scandals. This article provides an analysis of the key characteristics of virtual currencies, the risks they pose, and the response of regulators in Malta and elsewhere.

KEYWORDS: VIRTUAL CURRENCY – BITCOIN – FINANCIAL REGULATIONS

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1. What are virtual currencies?

Virtual currencies have been defined as ‘a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community’.² Whilst this definition holds true for some types of virtual currencies, the use of other virtual currencies such as Bitcoin transcend the boundaries of a specific virtual community. Virtual currency schemes do not have any physical counterpart with legal tender status and there is no involvement or supervision by central banks in the process.³ As a result, the conversion of virtual currency into traditional currency could prove difficult and the developers would practically have complete control of the virtual currency.

Virtual currencies can be purchased using legal tender as determined by the forces of demand and supply in the market, or else they could be acquired in virtue of participation in certain activities such as completing online surveys or responding to promotion or advertisements.⁴ There are a number of variances between different virtual currencies themselves, particularly in the degree of interaction with real money and the possibility of using such currencies as a medium of exchange for the acquisition of actual goods and services.

2. Different Types of Virtual Currencies

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² European Central Bank, ‘Virtual Currency Schemes’ (2012) 13 <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

³ *Ibid.*

⁴ *Ibid.*

There are various types of virtual currencies which share a number of common characteristics yet differ in certain other particular aspects. Virtual currencies only exist in a virtual environment and are not physically printed or stamped. Crypto currencies are one type of virtual currencies which are created by solving cryptographic algorithms. Encryption is used in order to generate public and private keys to verify ownership and transactions, which process is conducted via peer to peer networks.⁵ Whilst all crypto currencies are virtual currencies, not all virtual currencies are crypto currencies.

One of the most popular crypto currencies is Bitcoin, which was launched by a person or persons bearing the pseudonym Satoshi Nakamoto. Bitcoin is a decentralised digital currency which makes use of peer-to-peer technology and which can be used to acquire both virtual as well as real goods and services.⁶ The value of Bitcoin is not pegged to a real currency, and its rate of exchange is determined solely by market demand and supply, without the involvement of a central authority. The technology which supports the virtual currency facilitates the unrestrained flow of money and enables persons transacting in Bitcoin to surpass the restrictions imposed when using other payment systems, such as the ability to transact with countries hit by sanctions imposed by the United Nations.

Litecoin is a peer-to-peer internet currency based on the Bitcoin protocol and can be traded for both fiat currencies as well as Bitcoin. The processing of Litecoin transactions is much quicker than Bitcoin, the Litecoin network will issue four times as much units as the Bitcoin network.⁷ PPCoin is another crypto currency which shares much of Bitcoin's source code and which makes use of a proof-of-stake/proof-of-work hybrid system to reduce the risk of attacks resulting from a monopoly on mining power.⁸ Moreover, PPCoin is structured in a way to experience a steady 1% 'decentralised' inflation per year, resulting in an unlimited number of coins.⁹

Another type of virtual currency is the Second Life Scheme, which is based on a three-dimensional modelling tool that enables users to create virtual objects and trade using

⁵ 'What is the difference between a cryptocurrency, a digital currency, and a virtual currency?' <<http://www.quora.com/What-is-the-difference-between-a-cryptocurrency-a-digital-currency-and-a-virtual-currency>> accessed 14 October 2014

⁶ Investopedia, 'How Bitcoin Works' (2013) <<http://www.investopedia.com/articles/investing/072913/how-bitcoin-works.asp>> accessed 15 October 2013

⁷ 'What is Litecoin?' <<https://litecoin.org/>> accessed 6 November 2013

⁸ Sunny King and Scott Nadal, 'PPCoin: Peer to Peer Crypto Currency with Proof of Stake' (19 August 2012) <http://archive.org/stream/PPCoinPaper/ppcoin-paper_djvu.txt> accessed 6 November 2013

⁹ 'What is PPCoin?' (11 July 2013) <<http://www.guugll.eu/what-is-ppcoin/>> accessed 6 November 2013

Linden Dollars.¹⁰ Whilst Linden Dollars cannot be used to purchase real-life goods and services, they can be converted back into real money.¹¹ Unlike other virtual currencies, in the Second Life Scheme there is a central authority in the form of Linden Lab, which despite being independent from any public authority, performs a function akin to that of an issuing bank and can control every aspect of the currency.¹²

It has been argued that the introduction of crypto currencies was interrelated to the 2007-2008 financial crisis which exposed the vulnerability of government fiat currencies, where the somewhat libertarian movement reacted against the monetary control exercised by governments and central banks.¹³ The concerns about the stability of fiat currency have been reinforced by the Cypriot banking crisis of 2012-2013, and it has been suggested that these events have initiated a paradigm shift which will result in virtual currencies become more widely accepted than fiat money. Such development appears more possible than ever given that the upcoming generation has grown up in a digital environment and is accustomed to doing anything 'freely' online.

3. Focus on Bitcoin

The management of transactions and the issue of Bitcoin are carried out collectively by a number of computers in the network which mathematically generate Bitcoin by solving complex mathematical problems, in a process known as Bitcoin 'mining'. Bitcoin is the fastest growing currency in the world and can be seen as an alternative to traditional currency. The total number of Bitcoin is expected to increase up to a maximum limit of 21 million by around 2040.¹⁴ Bitcoin can be sub divided into fractions known as Satoshis, where one Bitcoin is equivalent to 100,000,000 Satoshis (or 1 Satoshi = 0.000 000 01 of a Bitcoin).¹⁵ Given that the maximum amount of Bitcoin which can be mined is limited, the fractioning of Bitcoin in Satoshis increases the number of tradable units significantly.

¹⁰ European Central Bank, 'Virtual Currency Schemes' (2012) 28 <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

¹¹ *Ibid.*

¹² Matthew Beller, 'The Coming Second Life Business Cycle' (2007) Ludwig von Mises Institute <<http://mises.org/daily/2640/The-Coming-Second-Life-Business-Cycle>> accessed 4 November 2013

¹³ Tyler J. Kubik, 'The Digital Money Paradigm and the Financial Crisis', (22 April 2014) <http://www.academia.edu/7811649/The_Bitcoin_Revolution_The_Digital_Money_Paradigm_and_the_Financial_Crisis> accessed 14 October 2014

¹⁴ European Central Bank, 'Virtual Currency Schemes' (2012) 25 <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

¹⁵ What is a 'Satoshi', <<http://bitcoin.stackexchange.com/questions/114/what-is-a-satoshi>>, accessed 13 October 2014

In order to use Bitcoin one requires a wallet, which will generate a Bitcoin address. The address can be disclosed to others so that they can pay you, or else one can effect payment to others through their address. Subsequently one would need to acquire Bitcoin and employ a combination of encryption and passwords in order to minimise the risk of hacking and enhance the safekeeping of the virtual currency.

Bitcoin can be exchanged in return for traditional currency on several exchanges such as Intersango, VirWox and BitStamp amongst others. It can also be directly transferred from one user to another across the internet using appropriate software. This makes Bitcoin well suited for international transactions, and it also enables the avoidance of bank charges or exchange rates.

4. Balances - block chain

The block chain is a shared public transaction log which is fundamental for the operation of the entire Bitcoin network as it registers all the confirmed transactions. In this way, it can be verified that all new transactions are making use of Bitcoin which are actually owned by the buyer. Cryptography is used to ensure the integrity and the chronological order of the block chain.¹⁶

5. Transactions - private keys

A transaction is a transfer of value between Bitcoin addresses, which is registered in the block chain. A private key is a secret piece of data which pertains to each Bitcoin address, and which is stored in Bitcoin wallets.¹⁷ Private keys are used as a signature for transactions, providing mathematical proof that the owner of the addresses is the person effecting the transactions and preventing any unauthorised alteration of the transaction once issued.

6. Processing - mining

Bitcoin mining is the process of solving complex mathematical problems in order to generate Bitcoin. A Bitcoin wallet is required in order to store the Bitcoin generated, and one would also need to download 'Bitcoin Client' software for the operating system.¹⁸ One may opt to mine Bitcoin either individually or else by joining a pool which combines the computing powers of the various members. One major advantage of the latter mode is that

¹⁶ 'How does Bitcoin work?' <<http://bitcoin.org/en/how-it-works>> accessed 30 October 2013

¹⁷ *Ibid.*

¹⁸ 'Securing your wallet' <<https://bitcoin.org/en/secure-your-wallet>> accessed 05 November 2013

in a pool each individual member would be given smaller and relatively easier algorithms to solve, and the combined efforts of the pool will increase the chances of solving the bigger algorithm. Bitcoins would then be distributed throughout the pool according to the contribution made by each member in the mining process. As the number of Bitcoin increases, the degree of complexity to mine other Bitcoin would similarly increase.

7. Advantages of Bitcoin over traditional currencies

As observed above, virtual currencies share a number of the characteristics with traditional currencies, which makes them suitable as a medium of exchange. However, there are a number of important differences between them which could render the use of Bitcoin more advantageous when compared to traditional currencies. In particular, Bitcoin can be transferred and stored outside of the banking system, rendering the virtual currency immune to the risk of bank failure. Furthermore, the currency is entirely online and there is no physical coinage.¹⁹ Given that the network is decentralised, it is not possible for central banks to issue new Bitcoin and devalue those already in circulation.

The virtual currency is constantly available and the processing of transactions is much faster when compared to the banking system. No charge backs are possible and Bitcoin transactions are immune from friendly fraud, meaning that once Bitcoin have been transferred, the transaction cannot be reversed as the only the associated private key would only be held by the new owner.²⁰ Moreover, the costs associated with Bitcoin transactions are much lower than bank charges.

8. Risks

There are disadvantages and significant risks associated with Bitcoin, the most noteworthy being:

No valuation guarantee – given that there is no central authority, no one can guarantee the minimum valuation of Bitcoin. If a large group of merchants leave the system, its valuation will decrease greatly, with immense negative repercussions for other Bitcoin investors.

¹⁹ Investopedia, 'How Bitcoin Works' (2013) <<http://www.investopedia.com/articles/investing/072913/how-bitcoin-works.asp>> accessed 15 October 2013

²⁰ 'Bitcoin' <<http://www-cs-faculty.stanford.edu/~eroberts/cs181/projects/2010-11/DigitalCurrencies/advantages/>> accessed 13 November 2013

Bitcoin valuation fluctuates – There are often large fluctuations in the value of Bitcoin according to demand, which not only creates uncertainty but also sheds significant doubt on Bitcoin's legitimacy as a currency. Variation in value would create confusion if a refund for a product is required, and this unpredictability may in part explain the reluctance of some governments to recognise the virtual currency as legal tender.²¹

Exchanges and online wallets are vulnerable to hacking. A case in point is the alleged theft of some 4,100 BTC (Bitcoin), the equivalent of \$1.3 million (at the time), from online wallets on a site operated by TradeFortress.²² Another similar case occurred on the 11 November 2013, where the wallets of some 4,000 clients of Bitcash.cz, a Czech Republic-based Bitcoin exchange, were hacked.²³

Bitcoin wallets can be lost or stolen – if a hard drive crashes or data is corrupted, Bitcoin could be lost without any potential form of recovery. Bitcoin is not yet widely accepted. Since it is only accepted by a very small group of online merchants, it is unfeasible to rely solely on Bitcoin as a currency.

No Buyer Protection– a purchaser who buys goods using Bitcoin cannot reverse a transaction if the seller fails to send the promised goods. This renders customers vulnerable to fraudulent practices. There may also be difficulties in obtaining redress from a court of law given that Bitcoin is not as yet recognised as a currency or otherwise regulated.

No Tracking– transactions are only traceable if users publicise their wallet address, yet it could still prove impossible to identify the persons involved in that transaction.²⁴ This significant degree of anonymity renders virtual currencies such as Bitcoin vulnerable to money laundering and terrorist financing abuse. Given that virtual currencies typically involve complex infrastructures spread in different countries to enable cross-border payments, it could be difficult to ascertain who is responsible for anti-money laundering

²¹ 'Bitcoin Some things you need to know' <<http://bitcoin.org/en/you-need-to-know>> accessed 5 November 2013

²² Richard Boase, 'Hackers steal \$1.2m of bitcoins from Inputs.io, a supposedly secure wallet service' (7 November 2013) <<http://www.coindesk.com/hackers-steal-bitcoins-inputs-io-wallet-service/>> accessed 15 November 2013

²³ Danny Bradburry, 'Czech bitcoin exchange Bitcash.cz hacked and up to 4,000 user wallets emptied' (12 November 2013) <<http://www.coindesk.com/czech-bitcoin-exchange-bitcash-cz-hacked-4000-user-wallets-emptied/>> accessed 15 November 2013

²⁴ Andy Greenberg, 'Dark Wallet Aims to be the Anarchist's Bitcoin App of Choice' (31 October 2013) <<http://www.forbes.com/sites/andygreenberg/2013/10/31/darkwallet-aims-to-be-the-anarchists-bitcoin-app-of-choice/>> accessed 13 November 2013

compliance and supervision or for law enforcement agencies to access the relevant data and investigate.²⁵ Whilst complex infrastructures and cross-border transactions nowadays form an intrinsic part of anything technological, including the movement of fiat money, virtual currencies raise additional intricacies owing to their anonymous nature.

9. Do virtual currencies possess all the characteristics to be considered money?

In order for a commodity to be regarded as money, it must possess all the attributes which make it suitable as a medium of exchange, such as scarcity, durability, portability and divisibility amongst others. Various conflicting opinions have been expressed regarding whether or not virtual currencies fulfil all the criteria required to constitute a medium of exchange which can be used instead of fiat money.

Economists such as Scott Sumner contend that Bitcoin is not yet money.²⁶ They underline that one of the most important characteristics of money is that of serving as a medium of account, or numeraire, and argue that virtual currencies will only be considered money if wages and prices start being denominated in say Bitcoin rather than dollars or Euros. It has been argued that Bitcoin-denominated pricing of goods and services need not evolve in a vacuum but must take account of existing market prices.²⁷

However, a US federal judge in the Bitcoin Savings and Trust (BTCST) case has ruled that Bitcoin are 'a currency or form of money' and are therefore subject to relevant US laws.²⁸ The judge underlined that Bitcoin can be used to purchase goods or services and can also be exchanged for conventional currencies. The only limitation is that it can only be used in those places that accept it as a currency.

10. Is Bitcoin Money?

²⁵ Financial Action Task Force, 'Virtual Currencies – Key Definitions and Potential AML/CFT Risks' (2014) 9 <<http://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-keydefinitions-and-potential-aml-cft-risks.pdf>> accessed 19 September 2014

²⁶ 'Is Bitcoin Money?' <<http://www.themoneyillusion.com/?p=24055>> accessed 6 November 2013

²⁷ Konrad S Graf, 'Bitcoin, price denomination and fixed-rate fiat conversions' (22 July 2013) <<http://konradsgraf.com/blog1/2013/7/22/bitcoin-price-denomination-and-fixed-rate-fiat-conversions.html>> accessed 6 November 2013

²⁸ Cyrus Farivar, 'Federal judge: 'Bitcoin, "a currency," can be regulated under American law' (7 August 2013) <<http://arstechnica.com/tech-policy/2013/08/federal-judge-bitcoin-a-currency-can-be-regulated-under-american-law/>> accessed on 6 November 2013

As stated above, for Bitcoin to be recognised as a medium of exchange it must fulfil a number of criteria and must be regarded as such by buyers and sellers in their daily transactions. According to the Executive Director of the Bitcoin Foundation, Jon Matonis, the ruling in BTCST underlines the fact that Bitcoin is increasingly being recognised as commodity money in a manner similar to gold and silver, that is, non-national units that do not require the backing of any third-party institution.²⁹

There are nine characteristics for a medium to be considered money, and it would seem that Bitcoin has a significant advantage in this regard over gold and other commodities, and in some instances is better suited for the purpose than fiat money.

- i. Scarce – Bitcoin supply is tightly controlled, and highly predictable
- ii. Durable - Bitcoin is digital, so it does not degrade with use, and Bitcoin wallets can be duplicated to prevent file corruption
- iii. Portable – Large amounts of Bitcoin can easily fit on a flash drive or other removable media as a form of cold storage³⁰, and transferred to a recipient located anywhere in the world.
- iv. Divisible – At present Bitcoin is divisible up to 8 decimal places
- v. Authentic Verification – It is not possible to visually identify Bitcoin since it does not exist in physical space, however, with advanced software one can identify Bitcoin in the block chain.
- vi. Storage – Bitcoin can be easily stored, and backup methods such as cloud storage could be used to reduce risk of loss.
- vii. Fungible – At present, all Bitcoin are considered equal.
- viii. Widespread Use – this is the most problematic characteristic, since Bitcoin is only accepted by a relatively small number of websites and traders.³¹

However, the guidelines issued by the US Financial Crimes Enforcement Network (FinCEN) in March 2013 on the applicability of the regulations implementing the Bank Secrecy Act, contend that virtual currencies do not possess all the characteristics of a real

²⁹ 'Bitcoin is a currency, rules US judge' <<http://67.227.255.239/forum/showthread.php?t=653751>> accessed 15 November 2013

³⁰ 'Ways to store Bitcoins', <https://en.bitcoin.it/wiki/Ways_to_store_Bitcoins> accessed 15 November 2013

³¹ Philip Archer, 'Refuting the ECB – The 9 Characteristics That Make Bitcoin Money' (18 June 2013) <<http://thegenesisblock.com/refuting-the-ecb-the-9-characteristics-that-make-bitco-in-money/>> accessed 15 November 2013

currency.³²The guidelines acknowledge that a virtual currency is a medium of exchange that operates in a similar manner to a real currency in certain environments. However, virtual currencies lack certain characteristics, the most noteworthy being the lack of legal tender status in any jurisdiction.

It is the present author's opinion that virtual currencies have practically all the attributes to qualify as a medium of exchange as an alternative to fiat money, and it is only a matter of time for them to acquire the status of legal tender as more transactions are negotiated, concluded and executed in terms of virtual currencies such as Bitcoin. In fact, if the use of virtual currencies becomes increasingly widespread, the question whether virtual currencies possess all characteristics to qualify as money would become immaterial.

11. Do virtual currencies undermine government?

One question which the success of virtual currencies such as Bitcoin poses is whether it could potentially undermine the modern state. Whilst governments were able to grow more powerful and centralised as a result of technology in the 19th and 20th centuries, the technologies of the 21st century may lead to the opposite outcome.³³

The volume of non-cash transactions is on the increase and is forecasted to continue spiralling upwards notwithstanding the financial crisis in Europe. Whilst electronic payments have been increasing in popularity over the past few years, Bitcoin is without precedent as an independent currency with a decentralised network. If crypto-currencies become widely adopted, they could potentially have a negative impact on governments in three central functions: taxation, police and macroeconomic stabilisation.

11.1 Taxation

The decentralised system used in virtual currencies and the strong safeguards on anonymity make it very difficult for state authorities to identify the parties to a transaction or what a person is earning. This makes it extremely difficult for states to be able to levy taxes and may also facilitate tax evasion. It would be a difficult task for states to enforce a

³² 'Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies' (18 March 2013) FIN-2013-G001 <http://fincen.gov/statutes_regs/guidance/html/FIN-2013-G001.html> accessed 15 November 2013

³³ Jerry Birto, 'Bitcoin vs. Big Government – How the virtual currency undermines government authority' (9 April 2013) <<http://www.thebitcoinchannel.com/archives/2680>> accessed 15 November 2013

system of reporting of Bitcoin income for individuals and businesses.³⁴ Given the encryption features and the storage capacity of digital currencies, it would be a more arduous task for authorities to track Bitcoin transactions than to follow physical cash. Moreover, the use of Bitcoin could potentially undermine the government's fiscal policy and its ability to raise sufficient revenue to finance its expenditure.

11.2 Police

The ability of states to detect certain criminal offences would be significantly undermined given the anonymous nature of Bitcoin and the absence of a centralised authority supervising the virtual currency. All this renders the process of obtaining information increasingly difficult, and the cross border nature of transactions in virtual currencies necessitates enhanced cooperation between law enforcement agencies across the world. In fact, it is often alleged that one of the major uses of virtual currencies is to purchase illicit drugs, amongst other crimes such as money laundering, fraud and bribery, which are considerably facilitated. Cases such as the one concerning the website 'Silk Road', discussed below, are evidence of the fact that virtual currencies could be used by those involved in criminal activities to avoid detection by law enforcement authorities.³⁵

11.3 Macroeconomic policy

Central banks would no longer be able to implement monetary policy in a Bitcoin economy. Governments would no longer fulfil the role of currency issuers, which would undermine their ability to create money in order to monetise public debt. Furthermore, the ability of governments to compile accurate economic data would be heavily prejudiced, thus rendering macroeconomic policy impossible. This would also entail that economic depression in a Bitcoin economy could prove to be an unsolvable problem as governments would be unable to undertake remedial action in the virtual currency market.³⁶

One way in which the threats posed by Bitcoin could be curbed would be for governments to regulate transactions involving Bitcoin and require records of all purchases and sales of

³⁴ Evan Soltas, 'Bitcoin Really is an Existential Threat to the Modern Liberal State' (5 April 2013) <<http://www.bloomberg.com/news/2013-04-05/bitcoin-really-is-an-existential-threat-to-the-modern-liberal-state.html>> accessed 12 November 2013

³⁵ Parmy Olson, 'The man behind Silk Road – the internet's biggest market for illegal drugs' The Observer (10 November 2013) <<http://www.theguardian.com/technology/2013/nov/10/silk-road-internet-market-illegal-drugs-ross-ulbricht>> accessed 12 November 2013

³⁶ Evan Soltas, 'Bitcoin Really is an Existential Threat to the Modern Liberal State' (5 April 2013) <<http://www.bloomberg.com/news/2013-04-05/bitcoin-really-is-an-existential-threat-to-the-modern-liberal-state.html>> accessed 12 November 2013

Bitcoin. The practicality and feasibility of such an approach are highly debatable since the usual mechanisms for detection and enforcement are very weak against Bitcoin. Alternatively, a more practical approach would be to regulate Bitcoin exchanges and impose the same obligations presently incumbent upon banks vis a vis their customers to conduct due diligence on Bitcoin users. Whilst the state was the driving force behind the development of money, it appears that virtual money might now push governments off centre stage.

12. Recent Experience

12.1 Bitcoin Savings and Trust (BTCST)³⁷

One recent case concerning Bitcoin revolved around Bitcoin Savings and Trust (BTCST) in the US, where the US Securities and Exchange Commission (SEC) charged its founder Trendon Shavers with running a Ponzi scheme.³⁸ The main question before the court was whether BTCST investments constituted securities as defined by the Federal Securities Laws. Whilst Shavers argued that Bitcoin is not money and therefore BTCST investments were unregulated, the SEC contended that BTCST investments amounted to securities. The decision of the court was to the effect that Bitcoin constitutes a form of currency and is therefore subject to relevant US laws, hence the investments in BTCST were tantamount to investments of money.³⁹ This ruling opens the way for US regulators to sue Shavers for misleading investors in a Bitcoin-based product he was marketing by offering artificially high interest rates. BTCST used money from new investors to pay the 'interest payments' due to previous ones.

Whilst the dictum by the US judge that Bitcoin is a form of currency constitutes a landmark pronouncement, in actual fact this case had nothing to do with Bitcoin and mainly revolved around the mechanics of a Ponzi scheme which was operated by the perpetrator in order to defraud investors.

³⁷ SEC v. Trendon T. Shavers, et al [2013] United States District Court, E.D. Texas, Sherman Division, Case No. 4:13-CV-416

³⁸ U.S. Securities and Exchange Commission, 'SEC Charges Texas Man With Running Bitcoin-Denominated Ponzi Scheme' Press Release (23 July 2013) <<http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370539730583>> accessed 12 November 2013

³⁹ Kashmir Hill, 'Federal Judge Rules Bitcoin Is Real Money' (8 July 2013) <<http://www.forbes.com/sites/kashmirhill/2013/08/07/federal-judge-rules-bitcoin-is-real-money/>> accessed 12 November 2013

12.2 Silk Road

The website 'Silk Road' was founded in 2011 and enabled users to purchase drugs, hacking tools, guns and other services anonymously in exchange for Bitcoin. The supposed owner of Silk Road, Ross Ulbricht, was arrested in October 2013 and 173,991 Bitcoin were seized from hardware belonging to him, amounting to some \$33.6 million.⁴⁰ Ulbricht faces charges of narcotics conspiracy, conspiracy to commit computer hacking and money laundering conspiracy. Forensic analysis was employed to discover the wallet containing the relevant Bitcoin, and the success of the investigation has shown that despite the lack of regulation and centralised control over Bitcoin, the relevant authorities can sometimes successfully intervene in cases of abuse.⁴¹

12.3 Bitcoin botnet exploiting ESEA's 500,000 member gaming community

An employee of the ESEA gaming network has exploited its users' powerful graphicscards to mine Bitcoin without their knowledge for personal gain.⁴² Over \$3,700 worth of Bitcoin were mined by using some of a CPU or GPU's power to solve hashes, thus generating the virtual currency. This case underlines the risks posed by Bitcoin owing to its anonymous nature and lack of supervision, as the computer users concerned effectively ended up engaging in the Bitcoin mining process without their knowledge. What is more, this was not simply a case of unjustified enrichment but a deliberate act by the perpetrator tantamount to theft. Whilst it is true that hackers have managed to defeat highly sophisticated security features employed in other online payment systems, the present lack of supervision surrounding Bitcoin exacerbates the risk of hacking attacks.

12.4 Mutum Sigillum LLC (Mt. Gox)

In May 2013, the US authorities reportedly froze and seized \$5 million worth of funds belonging to the largest global Bitcoin exchange, Mt. Gox.⁴³ The reason for the seizure was

⁴⁰ 'Feds seize \$28M in bitcoins' (26 October 2013) <<http://www.myfoxny.com/story /23797228/ny-us-attorney-28m-in-bitcoins-seized>> accessed 15 November 2013

⁴¹ 'Bitcoin Forensics - A Journey into the Dark Web' (1 November 2013) <<http://www.magnetforensics.com/bitcoin-forensics-a-journey-into-the-dark-web/>> accessed 15 November 2013

⁴² Aaron Souppouris, 'Employee creates Bitcoin botnet to exploit ESEA's 500,000-member gaming community' (2 May 2013) <<http://www.theverge.com/2013/5/2/4292672/esea-gaming-netwo rk-bitcoin-botnet>> accessed 15 November 2013

⁴³ Adrienne Jeffries, 'US government seized \$5 million from Bitcoin behemoth Mt. Gox' (23 August 2013) <<http://www.theverge.com/2013/8/23/4651926/us-government-seized-5-million-from-bitcoin-behemoth-mt-gox>> accessed 19 November 2013

that Mt. Gox was transferring money without a federal licence. The previous documentation filed by Mt. Gox identified it as a business not engaged in money services such as currency exchange. Money services in the US are required to register with FinCEN so as to limit fraudulent activity.

Furthermore, subpoenas have been sent to 22 digital currency companies, including BitInstant and Dwolla, seeking information about business operations and standards.⁴⁴

12.5 Are virtual currencies an instrument under MiFID?

At present, virtual currencies are not deemed to be an instrument under MiFID, thus companies dealing in virtual currencies are not required to undertake a licensing process with the Malta Financial Services Authority (MFSA) in line with the Investment Services Act. However, the rapid growth of the industry is likely to necessitate greater regulatory oversight in the mid to near term.

12.6 Perspectives of the European Central Bank

In its report on digital currencies, the European Central Bank has contended that virtual currencies pose risks that potentially require future regulation.⁴⁵ An increase in the use of virtual money could potentially lead to a decrease in the use of 'real' money. This could in turn substantially reduce the size of central banks' balance sheets and their ability to influence the short-term interest rates. Central banks would not be able to impose minimum reserve requirements on virtual currency schemes, and their ability to monitor price stability and ensure control over credit developments would become less effective.

Another difficulty highlighted by the ECB is that Central Banks would no longer be able to act as lender of last resort in order to prevent any possible chain reaction resulting from unforeseeable liquidity shortages. The level of safety of virtual currencies is below that of commercial bank money, given that the latter are subject to prudential requirements and ongoing supervision to reduce the likelihood of default. Moreover, there is no such thing as an investor/depositor protection scheme in relation to virtual currencies.

The author believes that the concerns expressed by the European Central Bank about the impact which the use of virtual currencies could have on real money and the role of Central

⁴⁴ Greg Farrell, 'N.Y. Subpoenas Bitcoin Firms in Probe on Criminal Risk' (12 August 2013) <<http://www.bloomberg.com/news/2013-08-12/n-y-regulator-subpoenas-firms-over-bitcoin-crime-risks.html>> accessed 19 November 2013

⁴⁵ European Central Bank, 'Virtual Currency Schemes' (2012) 42 <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

Banks are all solid arguments which should stimulate further debate. The benefits of having a robust regulatory framework and supervisory mechanisms enforced by Central Banks are undisputed, however, this does not mean that a Central Bank is in a position to prevent any mishaps in the economy, as demonstrated by the recent financial crisis. Given that the technology enabling transactions in virtual currencies is available and increasingly being used, there is no going back, and rather than seeking to stifle virtual currencies, Central Banks should seek to develop a proper regulatory framework which better protects users against abuse.

13.Regulation - the situation at present

Germany

In August 2013, Germany took important steps in regulating Bitcoin, classifying Bitcoin as a financial instrument. The German Federal Financial Supervisory Authority (BaFin) has amended its guidance to the definition of financial instruments within the German Banking Code to that effect.⁴⁶ Since Bitcoin is not universally recognised as a currency, Germany has categorised Bitcoin as a form of private money which is subject to German tax laws including value added tax on sales and income tax on profits earned from Bitcoin business.⁴⁷

Bitcoin companies are now required to fulfil stringent criteria in order to be licensed as financial services companies, and are subject to ongoing monitoring and review by BaFin. Operating without a license is a criminal offence. The following are some of the conditions which companies trading in Bitcoin must satisfy in order to attain the relevant licence:

- i. An initial capital requirement of €730,000;
- ii. Professionally qualified management;
- iii. Meet capital adequacy standards;
- iv. Submit a detailed business plan;
- v. Implement AML mechanisms, and
- vi. Regular reports to be provided to BaFin.⁴⁸

⁴⁶ 'Germany Sets Standard for Bitcoin Regulation' (19 August 2013) <<http://bitcoinmagazine.com/6421/germany-sets-standard-for-bitcoin-regulation/>>accessed19 November 2013

⁴⁷ Nina Fowler, 'Germany: Bitcoin is legal – just don't try paying your taxes with it' (19 August 2013) <<http://venturevillage.eu/germany-bitcoin-status>> accessed 21 November 2013

⁴⁸ *Ibid.* 487

The attainment of the relevant licence does permit passporting to other EU countries, however, it is not as yet clear how this would be done given that other European countries have not yet classified Bitcoin.

Regulation in the USA

Although the USA has not yet officially regulated the Bitcoin industry, it seems to be moving in that direction. In October 2013, following the closure of the Silk Road website by the FBI, the Homeland Security and Governmental Affairs Committee of the US Senate launched an investigation into the virtual currency to examine its characteristics and the various policy issues it raises.⁴⁹ The committee has held consultation meetings with federal law enforcement entities, government officials and other stakeholders in the business and technology communities to analyse the legal and economic implications of virtual currencies.

The US Senate Committee is seeking to acquire insight into policies, guidance or procedures concerning the treatment or regulation of virtual currencies in order to be in a position to take informed decisions and develop a sensible regulatory framework which does not suppress the growth of such technology. Law enforcement officials have highlighted their agencies' successful investigations concerning virtual currencies, despite the challenges faced during the course of proceedings.⁵⁰ The FBI has released a letter to the US Senate Committee stating that it recognises virtual currencies as 'legitimate financial services', but which could be vulnerable to exploitation by malevolent individuals.⁵¹ Following the hearings before the US Senate Committee, the value of virtual currencies, particularly Bitcoin, has increased considerably as investors are increasingly positive that such currencies will achieve mainstream acceptance. Virtual currencies have benefits and pose risks just like other online payment systems, thus a balance ought to be struck between the pros and cons of using virtual currencies to ensure that transactions are executed in the most secure and efficient manner possible. Other issues identified by the Committee include potential tax implications of Bitcoin transactions as well as concerns

⁴⁹ Kavya Sukumar, 'Government eyes regulation of 'Bitcoins'' (26 August 2013) <<http://www.usatoday.com/story/news/politics/2013/08/26/bitcoin-virtual-currency-regulations/2702653/>> accessed 20 November 2013

⁵⁰ U.S. Department of Homeland Security, 'Written testimony of U.S. Secret Service for a Senate Committee on Homeland Security and Governmental Affairs hearing titled "Beyond Silk Road: Potential Risks, Threats, and Promises of Virtual Currencies' Press Release (18 November 2013) <<http://www.dhs.gov/news/2013/11/18/written-testimony-us-secret-service-senate-committee-homeland-security-and>> accessed 19 November 2013

⁵¹ "Legitimate' Bitcoin's value soars after Senate hearing' (19 November 2013) <<http://www.bbc.co.uk/news/technology-24986264>> accessed 20 November 2013

over money laundering. It is evident that although virtual currencies are still in their infancy, decisions taken at the present stage could have significant repercussions on their development.

FinCEN guidance

On the 18 March, 2013 the Financial Crimes Enforcement Network (FinCEN) issued guidelines on the applicability of the regulations implementing the Bank Secrecy Act (BSA) to persons administering, exchanging or using virtual currencies. The guidance only deals with 'convertible' virtual currencies, that is, currencies which have an equivalent value in real currency, or act as a substitute for real currency.⁵² Exchanges of virtual currencies include both those institutions where virtual currency is bought and sold, as well as 'miners' who generate new units of the virtual currency in exchange for real cash. A user of virtual currency is not considered to be a Money Service Business (MSB) and hence is not subject to MSB registration, reporting and record-keeping regulations. On the other hand, an administrator or exchanger qualifies as a money transmitter under the MSB regulations, unless an exemption is specifically applicable.

14. Should virtual currencies be regulated?

The issue of whether virtual currencies should be regulated or not has generated considerable debate, particularly in the light of recent case law where it has been held that Bitcoin is 'a currency or form of money' and is therefore subject to the relevant US laws.⁵³ This raises significant legal issues since engaging in a money transmission business without the relevant licence would be considered as a crime. A number of European regulators have also expressed themselves on the matter, and the European Central Bank has highlighted the need of a structured approach to the various points at issue.⁵⁴

There are divergent views as to whether or not virtual currencies should be regulated. On the one hand it is argued that if unregulated, the widespread use of virtual currencies could tarnish the reputation of the banking system as a whole and have negative repercussions on investors. Regulation would settle in a definitive manner the debate whether virtual currencies are legal or not, giving peace of mind to investors and making virtual currencies

⁵² 'Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies' (18 March 2013) FIN-2013-G001 <http://fincen.gov/statutes_regs/guidance/html/FIN-2013-G001.html> accessed 15 November 2013

⁵³ 'Court officially declares Bitcoin a real currency' (8 August 2013) <<http://rt.com/usa/bitcoin-sec-shavers-texas-231/>> accessed 20 November 2013

⁵⁴ European Central Bank, 'Virtual Currency Schemes' (2012) <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

more dependable and accessible. Moreover, new jobs will be created, government revenue will increase and the public would be able to reap the benefits of a highly sophisticated and efficient value transfer system. The counter argument is that regulation could significantly diminish the scope and appeal of virtual currencies since the decentralised, anonymous nature of such currencies would be jeopardised.⁵⁵ Moreover, concerns regarding the jurisdiction of authorities to regulate virtual currencies and the effectiveness of any such regulation have also been raised, given that virtual currencies are not intrinsically connected with a particular territory in the same manner as fiat currencies are.

The ECB acknowledges that the use of virtual currencies such as Bitcoin has increased significantly in a relatively short period of time, and opines that regulation is necessary in order to minimise the risks associated with potential mishaps in the system.⁵⁶ It is not as yet clear whether virtual currencies should be regulated in the same manner as fiat money or as an investment instrument. The ECB opines that virtual currencies cannot fall under the Electronic Money Directive (2009/110/EC) because they do not fulfil all the criteria outlined in the Directive. The major difference between electronic money schemes and virtual currencies is that whilst in the former there is a link between the electronic money and the traditional money format, which are expressed in the same unit of account, in the latter there is only a virtual unit of account.⁵⁷ Virtual currencies would also fall outside the scope of the Payment Services Directive (2007/64/EC), since this directive does not regulate the issuing of electronic money.⁵⁸

One potential way forward identified by the ECB is that virtual currency exchanges undergo a similar trajectory to the one taken by PayPal, where they seek authorisation as financial institutions. This would reduce the likelihood of such schemes being used by criminals, fraudsters and money launderers for illicit purposes.

15. Conclusion

In the words of Satoshi Nakamoto, 'with e-currency based on cryptographic proof, without the need to trust a third party middleman, money can be secure and transactions effortless.'⁵⁹ However, cases such as the ongoing investigation concerning the Silk Road

⁵⁵ Jerry Brito, 'US Regulations are hampering Bitcoin's growth' (18 November 2013) <<http://www.theguardian.com/commentisfree/2013/nov/18/bitcoin-senate-hearings-regulation>> accessed 20 November 2013

⁵⁶ European Central Bank, 'Virtual Currency Schemes' (2012) 42 <<http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>> accessed 8 October 2013

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ Bitcoin Press Center <<http://bitcoin.org/en/press>> accessed 15 October 2013

website, which allegedly enabled drug dealers to trade using Bitcoin, demonstrate the risks associated with virtual currencies, amid concerns that at present virtual currencies feel like the Internet before the browser, and that they will do to banks what email did to the postal industry.⁶⁰

In the opinion of this author, given that the technology enabling transactions in virtual currencies has been developed and its use has been spreading across the globe, any attempts by governments to suppress it would be unlikely to succeed. A sensible regulatory framework ought to be developed which both supports the development and growth of such technology as well as seeks to protect vulnerable users against abuse. The lack of regulation and the decentralized nature of virtual currencies are what has made virtual currencies attractive, thus any attempt at regulation should ensure that such characteristics are not entirely curtailed. Regulation should also deal in a systematic manner with issues of money laundering and the risk of virtual currencies being used for other illicit activities.

In the light of the cross-border dimension of virtual currencies, it would appear that aims of regulation outlined above could be best achieved by means of a common harmonized approach, particularly in the European Union. Furthermore, the taxation of transactions in virtual currencies is likely to prove an important and considerable source of revenue for governments in the future, however, this matter could be left to the discretion of the particular member state authorities in accordance with the principle of subsidiarity, provided that the selected taxation regime fully respects EU rules.

⁶⁰ Exante, 'Bitcoin feels like the Internet before the browser' <<https://exante.eu/press/news/342/>> accessed 12 October 2013