

The financial crisis and digital currencies

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Introduction

Digital currencies are mainly known for their part in illegal activities such as money laundering or terrorist financing. However, the purpose of this chapter is to explore whether digital currencies could have a potential benefit for countries who are in financial crisis. Since 2007 the global financial crisis has affected many different countries and no more so than Greece where the austerity measures and fiscal issues have caused an enormous social and political upheaval. The global economy has been hit by the lack of trust and confidence the ordinary person has for banks, financial intuitions and in some countries the governing body. Banks were created in the 1400's in Florence to ensure that society could trust that their money or currency at the time, would be safe. Following the global crisis, this trust and confidence in the banks and financial institutions has been eroded. This chapter considers whether a digital, decentralised cryptocurrency where peer-to-peer transactions and lending takes place, could replace the trust and confidence that was once found in banks.

The chapter is therefore divided into several parts. The chapter begins by examining what digital currencies are and how they differ from other platform based currencies which could not be used at the present time as a form of currency within countries. The chapter then moves onto explore Bitcoins and how they are the leading digital currency currently and whether they have the potential to act as a States' currency. This then leads the chapter into discussing the financial crisis and digital currencies as an alternative to the sovereign currency of a State. In particular, the chapter uses Greece's tumultuous journey through the financial crisis as an example of a State exploring advantages and disadvantages of a cryptocurrency as an alternative currency. The chapter concludes by opining whether digital currencies have a future in financial crisis management and whether the law or State can intervene.

Digital currencies

The financial crisis of 2007-9 demonstrated how, we as a global society, rely on money; access to, and the supply of money. However, when we really sit and think about what money is we are often left confused. Money is the coins and papers in your purse or pocket? Money is the cash we deposit in the banks? Money is the card we hand over in the shop to purchase our morning coffee? Or is money just something that we exchange for something else, something that we collect and amass either tangibly or intangibly. Money or the legal tender in a country is determined and controlled by the country or governing body in the case of any monetary unions such as the European Union. However, money's evolution has demonstrated that money in its truest form could be anything. It could be the grain that is bartered to get the turnips your family wants. It could be the gold that you use to buy property; it could even in this modern technological society be codes within a computer which allows you to purchase goods to facilitate your modern life. Money therefore could be considered to be a digital currency and if a digital currency is money, a parallel currency to the national currency within a country, it could be used as an alternative economy. The question to ask if digital currencies are money, is what are their value?

A piece of computer code which makes up a Bitcoin has no intrinsic value unlike gold. However, the bank notes in your pocket are not valuable in their own fungible right, but they are the promise of the sum of gold (cash) on the front of the note. As Casey & Vigna denote, "in the broadest sense money is... an all-encompassing, society-wide system for keeping up with who owns or owes what".¹ Does this make Bitcoins less valuable than gold? The essence of value is linked to the trust between transacting parties and also the state and its people, if the money is state controlled. As will be discussed later in this chapter, Bitcoins are a decentralised currency with no central authority regulating or controlling them per se. This is not to say there is no structure to the currency but rather it is controlled by those people who mine code to release Bitcoins and the developer who has set a definitive number of Bitcoins to be mined. Bitcoins are digital obligations² much like the paper notes are physical obligations. For each of these to be worth any value the person receiving or holding the money needs to trust that the obligation will be fulfilled. If this is the case, then as

¹Casey, M. J. & Vigna, P. (2015) 'Bitcoin and the digital currency revolution', The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

²Keopsell, D. (2015) 'Rise of the cryptocurrencies like bitcoin begs question: What is money?', The Conversation. 25 September 2015. <https://theconversation.com/rise-of-cryptocurrencies-like-bitcoin-begs-question-what-is-money-46713> Date accessed 12 November 2015.

Keopsell states “Bitcoins are as real as money in banks”.³ In order for each form of money as discussed above to be useful within a country the people of that country needs to trust that their intangible commodity representing money will be honoured once presented. What has happened in many countries during the financial crisis is that the states cannot fulfil their obligations and therefore the money that is held by the person is now worthless. The trust has gone. Alternative solutions to ensure solvency within a country and for its people needs to be sought. Digital currencies may just be able to bridge the gap.

Digital currencies have received a lot of negative attention since its creation. There are different digital currencies and some of which will be considered within this chapter. However, the main emphasis is on the use of the digital currency Bitcoin as a medium of money within a financial crisis hit country, and whether this could be a potential way forward for these countries.

A digital currency is one which has been defined by the Financial Action Task Force in 2014 as:

[A] digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status (i.e., when tendered to a creditor, is a valid and legal offer of payment) in any jurisdiction. It is not issued nor guaranteed by any jurisdiction, and fulfils the above functions only by agreement within the community of users of the virtual currency. Virtual currency is distinguished from fiat currency (a.k.a. 'real currency', 'real money', or 'national currency'), which is the coin and paper money of a country that is designated as its legal tender; circulates; and is customarily used and accepted as a medium of exchange in the issuing country. It is distinct from e-money, which is a digital representation of fiat currency used to electronically transfer value denominated in fiat currency. E-money is a digital transfer mechanism for fiat currency—i.e., it electronically transfers value that has legal tender status.⁴

A digital currency as mentioned above can also encompass other virtual currency, such as platform based currency, which will be discussed below. Digital currency and virtual currencies are often used

³Keopsell, D. (2015) ‘Rise of the cryptocurrencies like bitcoin begs question: What is money?’, The Conversation. 25 September 2015. <https://theconversation.com/rise-of-cryptocurrencies-like-bitcoin-begs-question-what-is-money-46713> Date accessed 12 November 2015.

⁴ FATF, Virtual Currencies—Key Definitions and Potential AML/CFT Risks, 2014, p. 4. <http://www.fatfgafi.org/topics/methodsandtrends/documents/virtual-currency-definitions-amlcft-risk.html> date accessed 18 November 2015.

interchangeably⁵ and will also be done within this chapter. There are more than five hundred different digital currencies but Bitcoin is by far the most used and common.⁶

Digital currencies are either convertible or non-convertible meaning whether they can be converted from the virtual world into the real world and into real legal money, or not. Digital currencies are also classified as either being centralised or non-centralised. All convertible currencies are centralised and are administered by one central body. Decentralised currencies are not regulated by one administrative body but are rather peer-to-peer, open source, math based currencies. These are also known as cryptocurrencies.⁷

Countries Regulation of Digital Currencies

It is interesting to note how different jurisdictions view and deal with digital currencies. For some countries digital currencies should be regulated and deemed part of the financial system, others take the view that they should be banned and excluded from financial regulation. Within the section below a few selected countries jurisdictional oversight of Bitcoins and other virtual currencies will be discussed.

Since 2013 until 2015 Bitcoins and other digital currencies were examined by the Australian Tax Office and as such issued no guidance or regulation. In October 2013 the Australian Bitcoin bank was hacked causing a loss of over US\$1 million of Bitcoins⁸. Following this criminal activity Australia issued a guidance paper which stated that Bitcoins are not money or a foreign currency but rather it is similar to a barter system and will be treated as such in term of tax compliance.⁹ Australia in 2015 has deemed that Bitcoins and other digital currencies will be for all intense and purposed be considered 'money' under Australian law.¹⁰

⁵ The Senate. (2015) 'Digital currency – game changer or bit player'. Economics Reference Committee, Australian Government. P.3.

⁶ Robleh Ali, John Barrdear, Roger Clews and James Southgate, 'Innovations in payment technologies and the emergence of digital currencies', Quarterly Bulletin, Q3 2014, Bank of England, vol.54, no.3, p. 266. <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q301.pdf> date accessed 18 November 2015.

⁷ The Senate. (2015) 'Digital currency – game changer or bit player'. Economics Reference Committee, Australian Government. P.4

⁸ Library of Congress. Regulation of Bitcoins in Selected Jurisdictions. <http://www.loc.gov/law/help/bitcoin-survey/> Accessed 27 January 2016.

⁹ Library of Congress. Global Legal Monitor. Australia: Tax office Releases Guidance Paper and Draft Rulings on Bitcoin. August 25 2014. <http://www.loc.gov/law/foreign-news/article/australia-tax-office-releases-guidance-paper-and-draft-rulings-on-bitcoin/> accessed 27 January 2016.

¹⁰ Cuthertson, A. (2015) 'Bitcoin deemed regular currency by Australia Senate Committee.' International Business Times. 4 August 2015. <http://www.ibtimes.co.uk/bitcoin-deemed-regular-currency-by-australian-senate-committee-1514009> accessed 18 November 2015.

Although Canada does not view Bitcoins or digital currencies as money¹¹ they have taken a view that Bitcoins transactions will fall under the countries' taxation regime.¹² Similarly in 2014 the Government decided that Bitcoin's and other digital currencies would be subject to anti-money laundering and anti-terrorist financing regulations. These came into effect under Bill C-31 including an amendment to the Proceeds of Crime (Money Laundering) and Terrorist Financing Act. This amended law regulates Bitcoins through the definition of "money service providers."¹³

China has taken a robust approach to digital currencies and have issued a Notice on Precautions against the Risks of Bitcoins¹⁴. The notice informs the people of China that Bitcoins do not possess the characteristic of legal tender and does not have real meaning as currency.¹⁵ The notice continues to say people may not use Bitcoins as a means of payment or pricing for goods or services. Furthermore, the notice indicates that if websites or exchanges are operating with Bitcoins they need to register, according to the Telecommunications Regulations of the People's Republic of China, and the Internet Information Services Managing Guidelines, register with the Telecommunications Bureau.¹⁶ Additionally, they must also comply with the countries Anti-Money Laundering regulations.¹⁷

Cyprus, a country which has suffered economically during the most recent financial crisis, does not regulate the use of Bitcoins or digital currencies in the country. However, the Central Bank of Cyprus has issued a statement stating that the use of virtual currencies is dangerous as it is not regulated¹⁸.

The European Union has passed no specific regulations or legislation that confirms the status of Bitcoins or virtual currencies. The report Virtual Currency Schemes in 2012 explores the possibility of whether virtual currencies are money,¹⁹ with some debate as to whether it falls under the Electronic

¹¹George-Cosh, D. Canada Says Bitcoin Isn't Legal Tender, The Wall Street Journal. January 16 2014, <http://blogs.wsj.com/canadarealtime/2014/01/16/canada-says-bitcoin-isnt-legal-tender/>. Accessed 27 January 2016.

¹² Library of Congress. Regulation of Bitcoins in Selected Jurisdictions. <http://www.loc.gov/law/help/bitcoin-survey/> Accessed 27 January 2016.

¹³ Proceeds of Crime (Money Laundering) and Terrorist Financing Act 2014.

¹⁴ BTCC. (An Official Translation) The People's Bank of China and Five Associated Ministries Notice: Prevision of Risks Associated With Bitcoins. <https://exchange.btcc.com/page/bocnotice2013> accessed 27 January 2016.

¹⁵ BTCC. (An Official Translation) The People's Bank of China and Five Associated Ministries Notice: Prevision of Risks Associated With Bitcoins. <https://exchange.btcc.com/page/bocnotice2013> accessed 27 January 2016.

¹⁶ BTCC. (An Official Translation) The People's Bank of China and Five Associated Ministries Notice: Prevision of Risks Associated With Bitcoins. <https://exchange.btcc.com/page/bocnotice2013> accessed 27 January 2016.

¹⁷ BTCC. (An Official Translation) The People's Bank of China and Five Associated Ministries Notice: Prevision of Risks Associated With Bitcoins. <https://exchange.btcc.com/page/bocnotice2013> accessed 27 January 2016.

¹⁸ Cyprus Central Bank Warns About Risks in Use of Bitcoin, Famagusta Gazette (Dec. 10, 2012), <http://fama-gazette.com/cyprus-central-bank-warns-about-risks-in-use-of-bitcoin-p21692-69.htm>. accessed 27 January 2016.

¹⁹ European Central Bank, Virtual Currency Schemes (Oct. 2012), <http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>. accessed 27 January 2016.

Money Directive 2009/110/EC. Under this Directive electronic money is categorised as being: a) electronic storage; (b) issuance upon receipt of funds and c) acceptance as a means of payment by a legal or natural person other than the issuer.²⁰ The report finds that Bitcoins meets the first and third criteria but not the second.²¹ Similarly the Payment Services Directive 2007/64/EC was also seen as a possible legal avenue for Bitcoins but the EU report rejected this claim as it does not deal with electronic money.²²

Greece have issued no legal definition of Bitcoins or virtual currencies and there have been no statements from the National Bank of Greece. Currently Greece has taken no legal stance on the legal status of Bitcoins. Yet during the recent financial crisis Bitcoins aided the financial infrastructure.

Another country which suffered during the latest financial crisis, is Iceland which prohibited the use of Bitcoins and the Central Bank of Iceland has stated that trade in the currency is prohibited as trade may be violating the Foreign Exchange Act.²³

Russia has no legislation which regulates the use of Bitcoins but the use of the currency can be restricted under article 140 of the Russian Civil Code. This code only recognised the Rouble as a legitimate currency in the country. However, in 2014 the Central Bank of the Russian Federation stated that virtual currencies and the use therefore is considered a “dubious activity” associate with money laundering and terrorist financing and that the people of Russia should not engage in the use

²⁰Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the Taking Up, Pursuit and Prudential Supervision of the Business of Electronic Money Institutions, Amending Directives 2005/60/EC and 2006/48/EC and Repealing Directive 2000/46/EC, 2009 O.J. (L 267) 7, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:267:0007:0017:EN:PDF>. Accessed 27 January 2016.

²¹ Library of Congress. Regulation of Bitcoins in Selected Jurisdictions. <http://www.loc.gov/law/help/bitcoin-survey/> Accessed 27 January 2016.

²²European Central Bank, Virtual Currency Schemes (Oct. 2012), <http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>. accessed 27 January 2016.

²³ See: *Höftin stöðva viðskipti með Bitcoin* [Controls Stop Trading in Bitcoin], Morgunblaðið (Dec. 19, 2013), http://www.mbl.is/vidskipti/frettir/2013/12/19/hoftin_stodva_vidskipti_med_bitcoin/; for a rough translation of this article and comments, see Saevarg, *Bitcoin Trading Illegal in Iceland According to Icelandic Central Bank*, Reddit, http://www.reddit.com/r/Bitcoin/comments/1t8zf3/bitcoin_trading_illegal_in_iceland_according_to/ (last visited Jan. 10, 2014). In connection with Bitcoin mining in Iceland, in particular a business called Cloud Hashing set up in February 2013 that uses over one hundred computers and has mining contracts for 4,500 customers, “keeping 20 percent of its capacity open for its own mining,” see Russell Brandom, *Inside a \$4 Million Icelandic Bitcoin-Mining Consortium*, The Verge (Dec. 23, 2013), <http://www.theverge.com/2013/12/23/5238128/inside-a-4-million-icelandic-bitcoin-mining-consortium>.

of virtual currencies.²⁴ Developments during 2014 and 2015 see that the Russian Government are working to ban the use of Bitcoins completely within the country.²⁵

Within the United Kingdom there has been no official statement from the Bank of England as to the status of Bitcoins.²⁶ In 2013 a review was undertaken and determined that Bitcoins would remain unregulated.²⁷ Although they may be unregulated in 2013 Her Majesty's Revenue and Customs office has deemed Bitcoins to be subject to Value Added Tax of 10-20%²⁸ as Bitcoins could be "single purpose vouchers".²⁹

The United States approach to digital currencies is based in State not federal laws. Although Federal regulators are issuing guidance on Bitcoins. In 2013 the Financial Crimes Enforcement Network (FinCEN) published guidance³⁰ which stated when Bitcoins users could be considered as money services businesses. These businesses have to follow anti-money laundering and know your client regulations. Two other government regulators the US Commodity Futures Trading Commission (CTFC) and the US Securities and Exchange Commission (SEC) have not published guidance but both have indicated that it is not thinkable that guidance would be issued.³¹ State guidance has been much more forthcoming with New York issuing business licences to Bitcoin exchanges in 2015. Similarly, New Jersey has followed New York's steps and has also tried to push through legislations which will regulate the use and taxation of Bitcoins.³²

²⁴ Library of Congress. Global Legal Monitor. Russia: Bitcoin Exchanges can be Penalised. 6 February 2014. <http://www.loc.gov/law/foreign-news/article/russia-bitcoin-exchanges-can-be-penalized/> accessed 27 January 2016.

²⁵ Library of Congress. Global Legal Monitor. Russia: Bitcoin Exchanges can be Penalised. 6 February 2014. <http://www.loc.gov/law/foreign-news/article/russia-bitcoin-exchanges-can-be-penalized/> accessed 27 January 2016.

²⁶ Mona Naqvi & James Southgate, Bank of England, *Banknotes, Local Currencies and Central Bank Objectives*, 53: 4 Quarterly Bulletin 319 n. 3 (2013), <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2013/qb1304.pdf>. accessed 27 January 2016.

²⁷ Wild, J. UK Taxmen, Police and Spies Look at Bitcoin Threat, Financial Times (London) (May 13, 2013), <http://www.ft.com/cms/s/2/42ca6762-bbfc-11e2-82df-00144feab7de.html#axzz2pdQoiDZO>.

²⁸ Tom Gullen, *The Challenge of Being a Bitcoin Trader*, Financial Services Club Blog (Nov. 13, 2013), <http://thefinanser.co.uk/fsclub/2013/11/the-challenge-of-being-a-bitcoin-trader.html>. accessed 27 January 2016.

²⁹ Library of Congress. Regulation of Bitcoins in Selected Jurisdictions. <http://www.loc.gov/law/help/bitcoin-survey/> Accessed 27 January 2016.

³⁰ FinCEN. Guidance. Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies. March 18 2013. https://www.fincen.gov/statutes_regs/guidance/html/FIN-2013-G001.html accessed 27 January 2016.

³¹ Coin Desk. Is Bitcoin Legal. 19 August 2014. <http://www.coindesk.com/information/is-bitcoin-legal/> accessed 27 January 2016.

³² PYMTS.com. Bitcoin regulation roundup, Regulatory Divide and "life on Bitcoin". <http://www.pymnts.com/in-depth/2015/bitcoin-regulation-roundup-regulator-divide-and-life-on-bitcoin/> Accessed 27 January 2016.

As with the decentralised nature of the currency, its regulatory guidance is also gaining attraction from the decentralised sphere. Coin Centre³³ issued in 2015 a State Digital Currency Principles and Framework guide which outlines the basic elements of sound digital currency laws to aid law makers in the work.³⁴

Globally regulatory are opposed to providing legislation focused on the use of digital currencies but more and more governments are realising that the use of Bitcoins could and will generate taxable income for their countries. As such most of the legislation which is coming into play is based on the regulation of taxation and also anti-money laundering and counter terrorist financing regulations. As Emery & Stewart state, “there is a legal basis to treat digital currencies as money based on their function as a medium of exchange”.³⁵

Platform based digital currencies

Platform based digital currencies (PBDC) are those which are connected to centralised currency systems such as the Pound or Dollar, unlike digital currencies, such as Bitcoins, considered above. PBDC are issued by internet based companies such as Facebook³⁶, Amazon³⁷ or Linden Labs³⁸. Within these platforms digital currency can be bought or exchanged for centralised currency through credit card or PayPal transactions. PBDC are not normally centred on a physical unit of money such as a Pound or Dollar but have their own unit of value. Although Digital currencies are gaining some traction, in terms legislative oversight PBDC have not appeared on legislator’s agendas. Due to the nature of PBDC being able to be moved from the internet platform into the physical world, its potential for criminal misuse is enormous.³⁹ However, little is being done to monitor and regulate the increase of the market place use of PBDC. Their use outside the internet platform for non-criminal activity is minimal and therefore within the remit of this chapter, not a pertinent currency to discuss for financial crisis hit countries.

³³ Coincentre.org accessed 27 January 2016.

³⁴ Van Valkenberg, P. & Brito, J. Coin Centre. State Digital Currency Principles and Framework. 21 April 2015. <http://coincenter.org/2015/04/state-digital-currency-principles-and-framework/> accessed 27 January 2016.

³⁵ Emery, J. & Steward, M. Around the world, regulators are realising Bitcoin is money. The Conversation. 12 August 2015. <http://theconversation.com/around-the-world-regulators-are-realising-bitcoin-is-money-45934> accessed 27 January 2016.

³⁶ Facebook Credit.

³⁷ Amazon Coins.

³⁸ Second Life Linden Dollars.

³⁹ See: Chambers-Jones. C. L. & Hillman. H. Financial Crime and Gambling in a virtual world, a new frontier in cybercrime. 2014. Edward Elgar; and, Chambers-Jones. C. L. & Hillman. H. Virtual Economies and Financial Crime: Money laundering in Cyberspace. 2012. Edward Elgar.

Bitcoin

Houben argues that Bitcoins are already a “social phenomenon with legal relevance”⁴⁰ but to what extent can it be used for social good rather than the negative connotations that it attracts in the media? Bitcoin is a decentralised digital currency and came into existence in 2009, following the financial crisis. Bitcoin are divisible to eight decimal places⁴¹ meaning that it can take part in any financial transaction regardless of value. The Bank of England describes how the process of Bitcoin works:

A user, wishing to make a payment, issues payment instructions that are disseminated across the network of other users. Standard cryptographic techniques make it possible for users to verify that the transaction is valid— that the would-be payer owns the currency in question. Special users in the network, known as 'miners', gather together blocks of transactions and compete to verify them. In return for this service, miners that successfully verify a block of transactions receive both an allocation of newly created currency and any transaction fees offered by parties to the transactions under question.⁴²

Each Bitcoin transaction is linked to an address which is traceable and therefore the notion that Bitcoin transactions are always anonymous is not factually correct. These addresses are added to the public ledger (Blockchain) itemising the expenditure of Bitcoins.⁴³ Transactions are anonymous when users conduct transactions via Bitcoin exchanges which require no proof of identification.⁴⁴ Bitcoin

⁴⁰ Houben, R. (2015) Bitcoin: There are two sides to every coin. International Company and Commercial Law Review. PP155.

⁴¹ United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 6.

⁴² Robleh Ali, John Barrdear, Roger Clews and James Southgate, 'Innovations in payment technologies and the emergence of digital currencies', Quarterly Bulletin, Q3 2014, Bank of England, vol.54, no.3, p. 266. <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q301.pdf> date accessed 18 November 2015.

⁴³ United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 6.

⁴⁴ United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 6.

transactions are also irrevocable and users do not need to identify themselves to each other or a third party. This then also leads to issue of anonymity.⁴⁵

Bitcoins being a decentralised monetary system is also characterised by deflation. Bitcoins have been programmed so that it cannot generate in total more than 21 million Bitcoins. Bitcoins increase geometrically by 21,000 blocks roughly every four years. During this time span Bitcoins will encounter deflation due to a lack of new supply.⁴⁶

If a person wanted to create new Bitcoins rather than purchase them through a Bitcoin exchange, then, given that their computer was powerful enough to allow the running of the free downloadable software to generate Bitcoins, then the process is relatively simple. Mined Bitcoins must be stored in a virtual wallet, whether this is either on the hard drive of the computer or within a Bitcoin exchange, located outside of the person's computer.

Bitcoin has been at the forefront of people's minds recently due to its links with illicit crime. However, Bitcoins are not just used in illegal ways and Bitcoin's unidentified creator or the consortium of creators depending on what theory you adhere to,⁴⁷ released the document which described the coding and theory behind Bitcoin in the aftermath of the financial crisis. The financial crisis caused an enormous amount of distrust among consumers, states and bankers. The potentially unidentified creator,⁴⁸ Satoshi Nakamoto, provided a unique solution to this lack of trust emanating from the financial crisis. Nakamoto provided a decentralised currency which lacked state interference or third party interactions. The currency is peer-to-peer with the aim of cutting out the

⁴⁵ United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 6.

⁴⁶ Negurita, O. (2014) Bitcoin – between legal and financial performance. Contemporary Readings in Law and Social Justice. Volume 6(1), 2014, pp. 242-248 p. 244.

⁴⁷ Casey, M. J. & Vigna, P. (2015) 'Bitcoin and the digital currency revolution', The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

⁴⁸ In December 2015 Australian police arrested Craig Steven Wright, who has been identified as the probable founder of Bitcoin. The arrest came following Mr Wright's discussions with Australian Tax official and leaked documentation showing his links to the digital currency. See: BBC news (2015) Bitcoins founders' Australian home raided by Sydney police. 9 December 2015. <http://www.bbc.co.uk/news/world-australia-35048309> accessed 27 January 2016. Voorhes, A. Anderson, G., & Newton, J. Bitcoin's creator Satoshi Nakamoto is probably this unknown Australian Genius. Wired. 8 December 2015. <http://www.wired.com/2015/12/bitcoins-creator-satoshi-nakamoto-is-probably-this-unknown-australian-genius/> accessed 27 January 2016.

distrust of banks and financial intermediaries. However, in 2015 Warren Buffett stated that people should “stay away” from the digital currency due to its association with criminal activity.⁴⁹

The value of Bitcoins fluctuates greatly,⁵⁰ and its lack of identity checks allows criminals to use the currency via third party currency exchange for illegal means. However, the idea and the technology provides a safe, unhackable (due to its blockchain ledgers)⁵¹ currency which could be used in situations where the national or state currency has become unusable. As Casey & Vigna state:

“No digital currency will soon dislodge the dollar, but Bitcoin is much more than a currency. It is a radically new, decentralised system for managing the way societies exchange value. It is, quite simply, one of the most powerful innovations in finance in 500 years”.⁵²

Houben states that Bitcoins are virtual currency and a virtual currency is defined by the European Central Bank as a form of unregulated digital money, usually issued and controlled by its developers and used and accepted among the members of a specific virtual community.⁵³

Koepsell also argues that Bitcoins should be treated like money despite the lack of intuitional guarantees. He states that “a Bitcoin is as own-able as a dollars are when they are deposited in a bank...Bitcoins exist by virtual of their representations in a ledge in cyberspace”.⁵⁴ Koepsell links money and digital currencies by the trust the consumer places with the banks and the digital exchanges or wallets, that keep their money. There is an obligation in terms of physical or digital records that that customer has X amount of

⁴⁹Casey, M. J. & Vigna, P. (2015) ‘Bitcoin and the digital currency revolution’, The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

⁵⁰Casey, M. J. & Vigna, P. (2015) ‘Bitcoin and the digital currency revolution’, The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

⁵¹Casey, M. J. & Vigna, P. (2015) ‘Bitcoin and the digital currency revolution’, The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

⁵²Casey, M. J. & Vigna, P. (2015) ‘Bitcoin and the digital currency revolution’, The Wall Street Journal, 23 January 2015. <http://www.wsj.com/articles/the-revolutionary-power-of-digital-currency-1422035061> Date accessed 12 November 2015.

⁵³ European Central Bank. (2012) Virtual Currency Schemes. October. <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf> accessed 27 January 2016.

⁵⁴ Koepsell, D. (2015) Rise of cryptocurrencies like bitcoin begs question: What is money. The Conversation. 25 September 2015. <http://theconversation.com/rise-of-cryptocurrencies-like-bitcoin-begs-question-what-is-money-46713> accessed 27 January 2016.

currency deposited in the bank, exchange or wallet. He therefore concludes that “Bitcoins are as real as money”.⁵⁵

Houben, like Koepsell, also argues that Bitcoins are currencies because people have accepted them to be as such. Houben states that “this shows that money is a concept that evolves along with an evolving society”.⁵⁶ Houben further opines that “from a dogmatic point of view Bitcoins seems to comply with all of the components of the legal concept of money”.⁵⁷ However he also points to an interesting Dutch case⁵⁸ which decided that Bitcoins were not money from a legal perspective due to the fact that the Dutch Civil code does not apply to Bitcoins.⁵⁹

Contrary to this Dutch decision, Bitcoins was considered to be legal tender in an America Case, where an East Texas federal judge⁶⁰ decided that the currency could be regulated under American law.⁶¹

It is therefore still unclear in any given jurisdiction as to whether Bitcoins are money, regulated or part of the legal financial system. What is pertinent legally speaking is that Bitcoins have been used as part of criminal activities and have also been used for social benefits. The next part of this paper will consider the benefits of using digital currencies in countries that have suffered economic crisis.

Financial crisis and digital currencies

Within Bitcoin, in some instances being credited as being money, it is interesting to explore how Bitcoins or other digital currencies could be used for the social benefit of the world. Bitcoins it is argued has its origins linked to the financial crisis of 2007-9.⁶² Commentators

⁵⁵ Koepsell, D. (2015) Rise of cryptocurrencies like bitcoin begs question: What is money. The Conversation. 25 September 2015. <http://theconversation.com/rise-of-cryptocurrencies-like-bitcoin-begs-question-what-is-money-46713> accessed 27 January 2016

⁵⁶ Houben, R. (2015) Bitcoin: There are two sides to every coin. International Company and Commercial Law Review. PP155. And see: Plassaras (2013) Regulating digital currencies 14(1) Chicago Journal of International Law 377. For more links to this relationship between evolution of money and Bitcoins.

⁵⁷ Houben, R. (2015) Bitcoin: There are two sides to every coin. International Company and Commercial Law Review. PP155.

⁵⁸ Verdict not published Dutch Court of Overijssel 14 May 2014.

⁵⁹ Houben, R. (2015) Bitcoin: There are two sides to every coin. International Company and Commercial Law Review. PP155.

⁶⁰ Slashdot. (2013) Federal Judge declares bitcoin a currency. August 7 2013.

<http://yro.slashdot.org/story/13/08/07/2059250/federal-judge-declare-bitcoin-a-currency>

⁶¹ Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. Journal of International Banking Law and Regulation.

⁶² Negurita, O. (2014) Bitcoin – between legal and financial performance. Contemporary Readings in Law and Social Justice. Volume 6(1), 2014, pp. 242-248 p.243.

Negurita has orated that the existence of Bitcoins could be linked to the global economic crisis, promulgated by many challenges to the stability of national banking systems.⁶³ Negurita continues to explain why the growth of Bitcoin is related to the global economic crisis, and states that the natural occurrence of Bitcoins is understandable when central governments are causing ordinary people to lose deposited or investment money in safe and centralised financial intuitions⁶⁴.

Similarly, Sablik also highlights the importance of the role of the global financial crisis on the creation of the Bitcoin. He states that “some individuals looking for alternatives to government-issued currencies”.⁶⁵ Discussing the idea of the perception of money Sablik opines that as long as people believe that the currency being exchanged for goods is a real currency then it is money and useable as money.⁶⁶ However, he continues to look at the issue of regulation and argues that digital currency is like the inception of the internet. Legislators and policy makers are unsure as to how to legally treat it. On one hand we could apply existing laws or we could come up with new laws which would fit better.⁶⁷ What is clear is that it offers social potential but that there are legal obligations which must be addressed such as money laundering rules to ensure the safe and legal use of the currency.⁶⁸

Former Greek finance minister, Yanis Varoufakis, has been a vocal supporter of using Bitcoins as an alternative for national currency where financial crisis has crippled economies. On his website⁶⁹ he believes that Bitcoins “can be used profitably in order to help the Eurozone’s member states create euro-denominated electronic payment systems that help them...overcome the asphyxiating deflationary pressures imposed by the Eurozone’s Gold Standard -like auterian design.”⁷⁰

⁶³ Negurita, O. (2014) Bitcoin – between legal and financial performance. Contemporary Readings in Law and Social Justice. Volume 6(1), 2014, pp. 242-248 p.243.

⁶⁴ Negurita, O. (2014) Bitcoin – between legal and financial performance. Contemporary Readings in Law and Social Justice. Volume 6(1), 2014, pp. 242-248 p. 243.

⁶⁵ Sablik, T. Digital Currency. New private currencies like Bitcoin offer potential – and puzzles. Econ Focus, Third Quarter, 2013 p.18.

⁶⁶ Sablik, T. Digital Currency. New private currencies like Bitcoin offer potential – and puzzles. Econ Focus, Third Quarter, 2013 p. 19.

⁶⁷ Sablik, T. Digital Currency. New private currencies like Bitcoin offer potential – and puzzles. Econ Focus, Third Quarter, 2013 p. 20.

⁶⁸ Sablik, T. Digital Currency. New private currencies like Bitcoin offer potential – and puzzles. Econ Focus, Third Quarter, 2013 p. 27.

⁶⁹ Varoufakis, Y. Thoughts on a post 2008 world. <http://yanisvaroufakis.eu/> accessed 27 January 2016.

⁷⁰ Varoufakis, Y. Bitcoin: a flawed currency blueprint with a potential useful application for the Eurozone. 15 February 2014. <http://yanisvaroufakis.eu/2014/02/15/bitcoin-a-flawed-currency-blueprint-with-a-potentially-useful-application-for-the-eurozone/> accessed 27 january 2016.

Greece

The Great Financial Crisis of 2007-9 effected most countries around the globe. However, within the Eurozone several countries were affected greatly. These countries, Greece, Ireland and Iceland saw enormous strain on their domestic economy due to the crisis. Greece is still, some six years after the crisis, struggling to maintain solvency. Former Greek finance minister, Yanis Varoufakis, is an advocate of using a digital currency as a parallel to the Euro to help 'delay the moment of default on the loans'. As Mason opines about the Greek financial problem:

"The Greek debt is unpayable; the austerity required to pay it down is socially unbearable. So whether it's this week or in six months' time, there will come a point when Athens cannot meet conditions acceptable to the European Central Bank. Then, the normal sequence would be: bank closures, capital controls, an angry standoff and ultimately a Greek default".⁷¹

Varoufakis's idea is that the digital currency would be similar to Bitcoins but it would be issued by the state and would, like Bitcoins, be exchangeable for Euro's. The other difference would be that if, once you had the new digital currency, you retained it for more than two years you would get a profit back on it paid for by taxes. Varoufakis, termed the idea a "future-tax coin".⁷²

The reasoning behind Varoufakis' proposal was that Greece would have a currency which was outside the reach of Brussels and that it would give the people of Greece an opportunity to live within the reaches of austerity. Varoufakis, is seen as an anti-establishment economist and should a digital currency actually come into being in Greece it would support his, and many others ideas, that it should be the state and not markets that create money.⁷³

The argument is further developed by the anti-establishment economists stating that taxing and spending creates money and not buying and selling in the market place. By the state taking an active

⁷¹Mason, P. (2015) 'Can a Bitcoin-style virtual currency solve the Greek Financial crisis?' The Guardian, 22 February 2015. <http://www.theguardian.com/commentisfree/2015/feb/22/can-a-parallel-digital-currency-solve-the-greek-financial-crisis> Date accessed 12 November 2015.

⁷²Varoufakis, Y. (2013) Bitcoin: a flawed currency blue print with a potentially useful application for the Eurozone. <http://yanisvaroufakis.eu/2014/02/15/bitcoin-a-flawed-currency-blueprint-with-a-potentially-useful-application-for-the-eurozone/> Date accessed 18 November 2015.

⁷³Mason, P. (2015) 'Can a Bitcoin-style virtual currency solve the Greek Financial crisis?' The Guardian, 22 February 2015. <http://www.theguardian.com/commentisfree/2015/feb/22/can-a-parallel-digital-currency-solve-the-greek-financial-crisis> Date accessed 12 November 2015.

role in regulating and taxing money within their system, they can create more money. This Modern monetary theory is as Mason argues, not a theory any more.⁷⁴

This belief in the State and that the state will exist in the future is what drives this modern monetary theory forward. If people believe in the currency, then it is real and the economy can regain its cogs once more. If this happens the State can pay people, it can create more jobs and can ensure the economy is running despite running at a deficit. In other words, a State that controls its own monetary system will always be solvent as it can always create more. This is an inherent problem for countries within the Eurozone who do not have control over their national monetary systems and as we can see from the Greek problem, can lead to severe monetary solvency issues for countries.

During the financial crisis when ATM machines were running out of cash, there was a rise in the use of Bitcoins and in fact the first Bitcoin ATM was set up in one of the Greek Islands so that people could access money.⁷⁵ On the island of Agistri, a test case for the digital currencies, a local loyalty scheme has been created (drachmaconnect.com) which allows people and tourists to use a digital currency when conducting financial transactions on the island.⁷⁶ It has been argued⁷⁷ that the use of the digital currency can be likened to the use of M-Pesa in Africa which is a mobile phone based money transfer and micro-financing initiative.⁷⁸

The Greek financial crisis and the use of digital currencies by ordinary people, as a short term means of accessing money, demonstrated the social benefit of the decentralised peer-to-peer system. The Eurozone has been severely disabled during the recent financial crisis and its people turned to a non-government controlled money. It allowed people to have access to the basic necessities that money facilitates. However, the appeal and awareness of what Bitcoins or other digital currencies could offer people in austerity or financial crisis, is limited. By regulating the digital currency, awareness would rise but with regulation comes governmental control. The people of Greece have demonstrated throughout the years since the financial crisis, their mistrust of those in charge of their financial system. Regulation by the government or national bank may not be the right legal and

⁷⁴ Mason, P. (2015) 'Can a Bitcoin-style virtual currency solve the Greek Financial crisis?' The Guardian, 22 February 2015. <http://www.theguardian.com/commentisfree/2015/feb/22/can-a-parallel-digital-currency-solve-the-greek-financial-crisis> Date accessed 12 November 2015.

⁷⁵ Mason, P. (2015) 'Can a Bitcoin-style virtual currency solve the Greek Financial crisis?' The Guardian, 22 February 2015. <http://www.theguardian.com/commentisfree/2015/feb/22/can-a-parallel-digital-currency-solve-the-greek-financial-crisis> Date accessed 12 November 2015.

⁷⁶ Aitken, R. (2015) Greek Economic Crisis: is a parallel currency the answer? Forbes. 5 July 2015. <http://www.forbes.com/forbes/welcome/> accessed 27 January 2016.

⁷⁷ Aitken, R. (2015) Greek Economic Crisis: is a parallel currency the answer? Forbes. 5 July 2015. <http://www.forbes.com/forbes/welcome/> accessed 27 January 2016

⁷⁸ For more information see: <https://www.mpesa.in/portal/> Vodafone's M-Pesa initiative. Accessed 27 January 2016.

social position but it would enable the digital currency to become more mainstream and facilitate an economic growth, which the Euro is not able to do currently. Regulation, in some shape or form would allow for the currency to be used in a legal way and to ensure the safety of its users, but perhaps it would diminish the appeal of its maverick nature.

Advantages and Disadvantages of using a digital currency for a crisis hit country

The financial crisis has allowed economics and legal academics to look into the benefits and disadvantages of using Bitcoins, or other digital currencies as a means of alternative finance. In the next section of this chapter, an exploration of these will be undertaken to argue whether an alternative currency could be beneficial to those countries inflected by global financial crisis measures.

Disadvantages

There are many disadvantages to using Bitcoins or other digital currencies but these are not insurmountable. One of the issues with Bitcoin is the lack of a financial institutions involvement and therefore it falls outside the legal remit of banking.⁷⁹ There are no safeguards in place to protect the consumer if a digital currency is not linked to a bank. If the digital currency stops being in existence or suffers a financial crisis, then it is not backed by the bank and government, and the customer will not have any recourse.⁸⁰ Digital wallets and also credit and debit cards used in financial transactions of digital currencies will also not recompense a customer who has suffered a loss through the use of digital currencies.

Bitcoins are very volatile and customers can lose vast amounts of money very easily and quickly without government or institutional backing and safeguards.⁸¹

Another disadvantage is that there is a limited number of goods and services available for exchange of Bitcoins or digital currencies.⁸² The digital currency phenomenon is relatively new and not all

⁷⁹United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p.22.

⁸⁰Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. Journal of International Banking Law and Regulation.

⁸¹United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 22.

⁸²Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. Journal of International Banking Law and Regulation.

vendors accept digital currencies as a means of payment. This is changing however and in cases of financial crisis, evolution and development are quick to set in to accommodate supply and demand.

There is a lack of national and international regulation which means that any unregulated digital currency can be used for criminal purposes, such as money laundering and terrorist financing⁸³. However, more countries are now viewing the financial transactions of digital currencies as being applicable to national anti-money laundering rules. Although it does not protect the currency itself it can protect the consumer and society in general.

Tax evasion is also a disadvantage (or advantage) of using a digital currency and has been seen a means of avoiding paying national taxation.⁸⁴ In light of this the US and Germany have taken the stance that Bitcoins are subject to capital gains tax and retail transactions are subject to sales tax. In Denmark casual sales of Bitcoins are not subject to taxation but Norway follows the German taxation system.⁸⁵

Bitcoins themselves have issues where they have been stolen or lost, thus rendering the owner unable to seek recompense or recourse for their return. Virtual Wallets can be hacked with the result of the theft of Bitcoins,⁸⁶ they can also be lost or erased from an owner's computer.⁸⁷

Bitcoins can also be used to pay for unregulated gaming activities on the internet. Consumers using unregulated gaming sites have a mistrust of mainstream financial providers and as such use alternative means of financing for their activities. This can lead to the increase of criminal activities stemming from gaming.

Advantages

One of the most notable advantages for countries within a financial crisis is that Bitcoins are non-governmentally controlled. Thereby government, unless through legislation cannot control the use of the currency if the country is gripped in a financial crisis. People would be able to access their finances through the internet thus allowing spending and consumption of goods. In countries such

⁸³Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. *Journal of International Banking Law and Regulation*.

⁸⁴Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. *Journal of International Banking Law and Regulation*.

⁸⁵Anderson, T.A. (2014) Bitcoin – it is just a fad? History, current status and the future of the cyber-currency revolution. *Journal of International Banking Law and Regulation*.

⁸⁶Simser, J. (2015) 'Bitcoin and modern alchemy: in code we trust'. *Journal of Financial Crime*. Vol. 22. No. 2. P. 164.

⁸⁷Simser, J. (2015) 'Bitcoin and modern alchemy: in code we trust'. *Journal of Financial Crime*. Vol. 22. No. 2. P.164.

as Greece, Cyprus and Iceland where banks saw enormous runs on their deposits, people with access to Bitcoins would still be able to have access to their accounts.

The cost and speed of the transaction is also a benefit to the currency. The irrevocable transaction is faster than a normal electronic transfer as it does not need to go through a third party for authentication. The process is peer-to-peer lending⁸⁸. This also means that the cost of the transaction is considerably lower, depending on the type of transaction being made. This will also benefit and encourage the growth of micropayments, thus increasing the amount of people who have access to finance globally.⁸⁹

Financial privacy is both an advantage and a disadvantage of the currency system.⁹⁰ Although transactions are not completely anonymous due to the Bitcoin unique address being recorded in the block chain ledger, there is more privacy associated with the financial transaction than with traditional payment systems. A disadvantage would be that the levels of anonymity creates a criminal undertone where criminal activities can be traced back to.⁹¹

Access is also a huge advantage of a digital currency.⁹² A digital currency is based on the internet and therefore can be accessed by any population that has access to the internet but perhaps does not have access to other systems of finance. This may be the case not only in rural developing countries but also in countries where financial crisis has led to the collapse of the traditional banking system.

Conclusion

The idea of Bitcoins or a new form of digital currency offers society a new form of currency. This new form of currency is currently unregulated for the majority of its activities and can pose serious criminal issues. However, it can also be used for a social good where countries are gripped with financial crisis and ordinary people have no other means of access finance. There is much merit in the idea that a parallel digital currency could mean a lesser effect of austerity measures in times of financial crisis. A digital currency may also mean that more of the unbanked population being

⁸⁸United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p.23.

⁸⁹United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 23.

⁹⁰Houben, R. (2015) Bitcoin: There are two sides to every coin. International Company and Commercial Law Review. PP155.

⁹¹ See information on Silk Road and Liberty Reserve.

⁹² United States Government Accountability Office. Report to the Committee on Homeland Security and Governmental Affairs, US Senate. Virtual Currencies Emerging, regulatory, law enforcement and consumer protection challenges. (2014) p. 6.

bought into the financial environment through an alternative mechanism. To regulate the digital currency in comparison to the traditional forms of finance would mean that the possibilities of the currency is curtailed. Not regulating digital currencies in light of traditional crimes effecting finance will allow the criminal underbelly of society an avenue to flourish. A bespoke set of national and international laws directing legislation and guidance to where digital currencies can achieve benefits is greatly sought after. This is only achievable through a careful and considered debate between policy makers and users/developers of digital currencies. Digital currencies can offer much hope for a fairer and more equal financial system but if the regulators get it wrong they will be forever confined to criminals and those who are rich enough to dabble in innovative finance.

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