WHAT ARE THE SYSTEMIC RISKS OF BITCOIN/CRYPTOCURRENCIES (IF ANY) AND HAVE REGULATORS BEEN SUFFICIENTLY AWARE OF ANY RISKS?

[2,104 words excl. references]

1. INTRODUCTION

According to Vigna and Casey (2015), cryptocurrencies open new possibilities for individuals without bank accounts. It is therefore inevitable that there would be a lot of excitement throughout the world about them. 'Cryptocurrency' is a term which was first described in 1998 by Wei Dai and the first one to ever be in use, which is Bitcoin, was implemented in 2009 (Cheng, 2018). It is fast-growing, highlighted by the fact that there are over 1,601 cryptocurrencies available globally as of May 2018 (Coin Market Cap, 2018). While some researchers claim that cryptocurrencies will fundamentally alter politics, economics and payments around the world, others argue that they are riddled with too many risks which could potentially spark a systemic crisis (Narayanan, Bonneau, Felten Miller & Goldfeder, 2016).

This essay argues that while indeed there are some risks associated with cryptocurrencies, they are not actually systemic. In order to do this, the term 'systemic risk' needs to be fully understood so firstly, the key terms used throughout this essay will be defined. Secondly, the risks associated with cryptocurrencies will be highlighted, followed by a discussion on why these risks are not necessarily systemic. Thirdly, the extent of government entities' awareness and regulation of cryptocurrencies will be discussed, and lastly, a conclusion considering all the evidence provided throughout the essay will be constituted.

2. DEFINITIONS OF KEY TERMS

- Bitcoin – a digital currency which is stored in a 'digital wallet' and uses encryption methods to generate the units of currency and authenticate the transfer of funds (Leys,

2017). It is known as the first decentralized peer-to-peer payment network, tradable throughout the world, and independent of a central bank which means that the fees for trading it are lower, thus making it so popular (CNN Money, 2018).

- Cryptocurrency – an electronic currency which is created and stored with computer codes. It is also known as 'digital currency', because it is digitalized and decentralized. Its transaction history is known as a 'Blockchain' (Scott, 2018a).

- Regulator – a public authority or government agency which is responsible for exercising authority over an area of human activity in a supervisory or regulatory capacity, such as, for example, establishing and sustaining the operating limits of a system, usually within certain prearranged or specific limits (Huault & Richard, 2012). One of the main reasons for regulation in financial marketplaces is to reduce the risk of systemic crises occurring (Counterparty Risk Management Policy Group, 2008).

- Systemic risk - the risks caused by interdependencies or interlinkages in a financial market, where the crash of a single industry or collection of industries can lead to a cascading failure which could spill over into and potentially crash or bankrupt the entire financial system or market (Kaufman & Scott, 2003; Federal Reserve Bank of Atlanta, 2009).

It is important to distinguish between *systemic* and once-off, or *idiosyncratic*, risks. Idiosyncratic risks affect only a single asset or institution and will not ripple out into the rest of the system, while systemic risks threaten the collapse of the entire financial system, causing a major depression in the real economy (Haldane & May, 2011; Systemic Risk Centre, 2018).

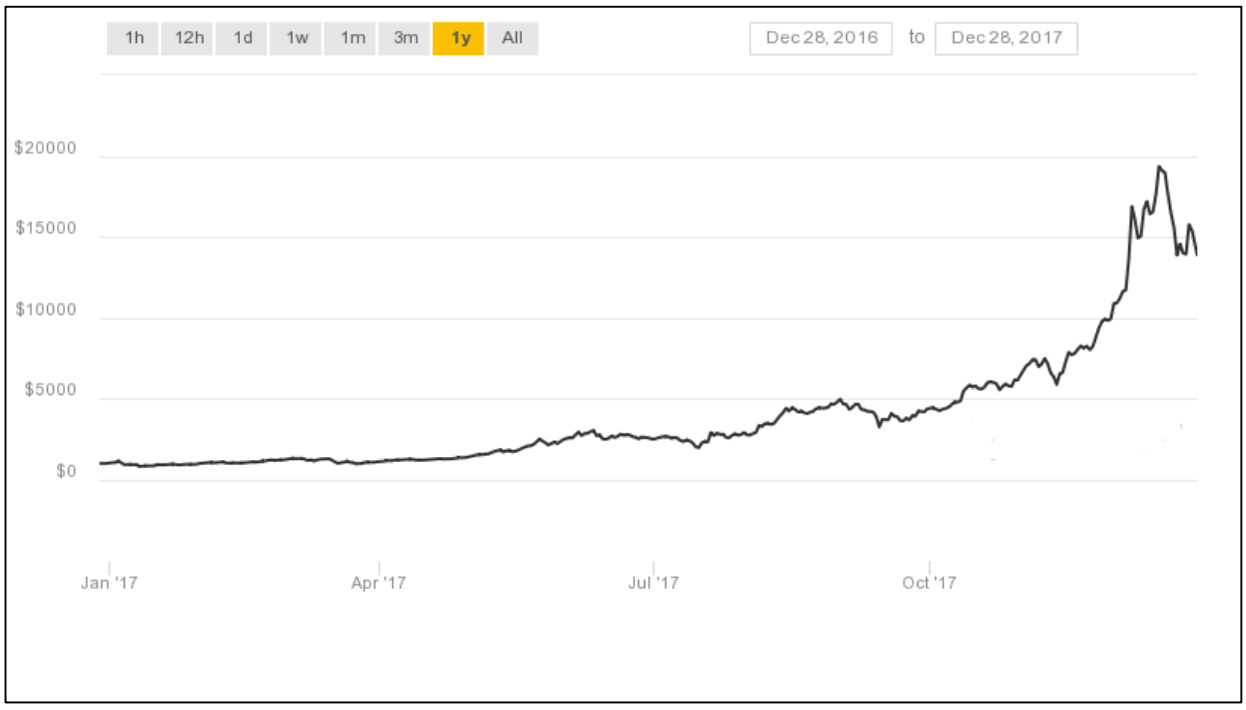
3. THE RISKS ASSOCIATED WITH BITCOIN/CRYPTOCURRENCIES

Like every other financial industry, cryptocurrencies are vulnerable to risks, which include the following:

3.1. Volatility of the value of cryptocurrencies

The values of cryptocurrencies are highly sensitive to numerous factors and are thus extremely volatile (Tumber, 2015; Lahmari, Bekiros & Salvi, 2018). For example, as shown in Figure 1, Bitcoin's value soared from $1000 in January of 2017 to just under $3,000 in July, before reaching peaks of just under $20,000 in mid-November then dropping down to around $13,000 by the end of the year (Coin Desk, 2017). While investors reap enjoyable peak periods, the troughs could inspire a lack of confidence from investors which would cause them to liquidate their investment altogether. This could subsequently cause a crash if numerous investors liquidate at the same time (The Wall Street Journal, 2018).

Figure 1: The volatility of Bitcoin's value in 2017



Source: Coin Desk (2017)

3.2. Investors borrowing funds to buy cryptocurrencies

While cryptocurrencies are highly volatile, investors who have no collateral are borrowing funds and taking up mortgages to buy into them (Holodny, 2017). For example, Coinbase, a trading platform, allows investors to buy cryptocurrencies using their credit cards (Coinbase, 2018). This puts them at high risk of getting into debt with interest rates as high as 20% and not being able to repay them. This is cause for alarm because one of the major factors that threaten an economy is when a plunge in the price of assets is coupled with the extensive use of borrowed capital to purchase those assets, particularly from banks (The Economist, 2017). Given that there is a rapidly-increasing amount of people borrowing funds to buy into cryptocurrencies, this could eventually lead to a systemic crisis reminiscent of 2008[1].

3.3. Anonymity in cryptocurrencies

Since it is possible to buy and sell cryptocurrencies completely anonymously, this has led to them being used in facilitating financial crimes because the perpetrators of said crimes are not at risk of detection and subsequent conviction (Hodgson, 2017). For example, numerous accounts are hacked and stolen from on a daily basis. When major investors are hacked, the value of the cryptocurrency is compromised and thus plummets due to said investors losing their assets/holdings in the cryptocurrency and subsequently not being able to trade in the capacity that they could prior to the hack (Marthinsen, 2014). This was seen in January of 2018 when Bitcoin's value dropped by 9% following the theft of $524 million worth of various cryptocurrencies from Coincheck, an exchange platform (Shen, 2018).

4. WHY THESE RISKS ARE NOT ACTUALLY SYSTEMIC

The risks associated with cryptocurrencies are in actual fact idiosyncratic risks and not systemic; not only are cryptocurrencies too small to pose a systemic risk, but the fact that there are over 1,601 cryptocurrencies in the market means that should one particular cryptocurrency experience a complete crash for reason/s which would in turn affect the overall market, there will always be another one that investors can turn to, thus preventing the possibility of cryptocurrencies posing

[1] In 2008, people took out mortgages because they were expecting property values to increase. However, the values plummeted instead, and people's assets were not enough to recover that debt. This led to a major crisis in the entire financial system (Erkens, Hung & Matos, 2012).

a systemic risk. However, the possibility of a cryptocurrency crashing in the first place is almost impossible because there will always be potential investors; when the price crashes and old investors decide to make up for their losses by liquidating the currency, new investors see an opportunity to jump in and buy these currencies at a relatively lower price to own and trade, just like a never-ending cycle (Scott, 2018b). The only potential systemic risk posed by cryptocurrencies would be if millions of people took out mortgages without collateral to purchase them which would lead to the same events as 2008, however, the value of cryptocurrencies in the overall market thus far is too small to cause such (Varathan, 2017).

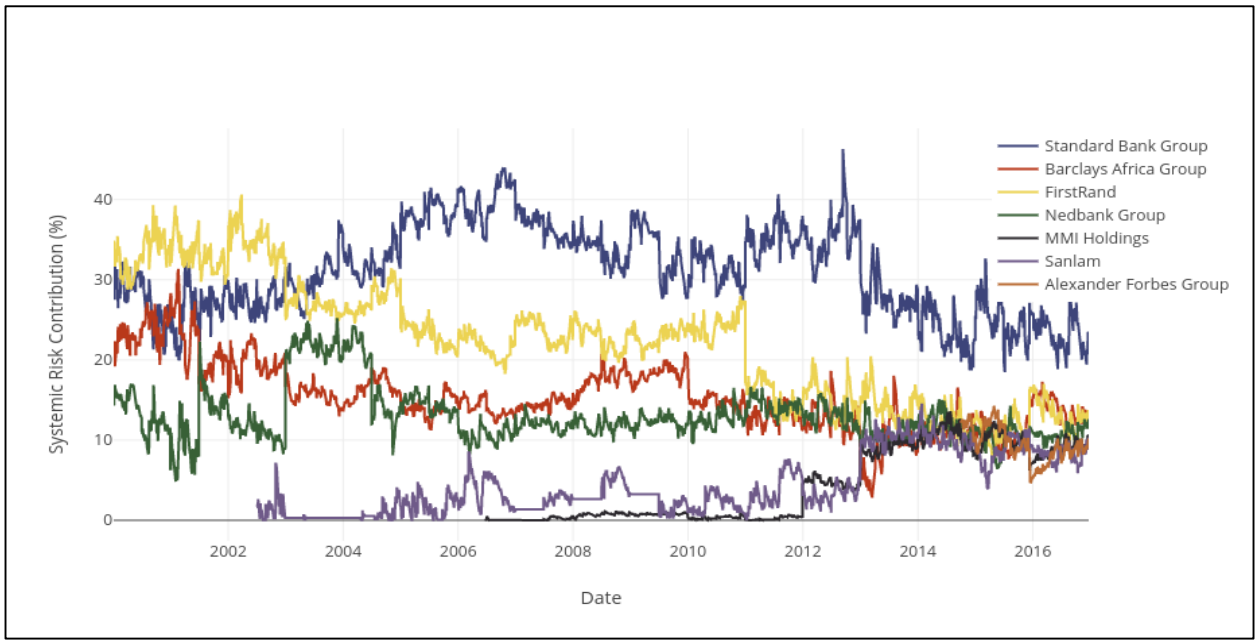
This is confirmed in a survey conducted by the Centre for Macroeconomics[2] (2017). 73% of the survey's respondents, which consisted of top Economists including researchers at Oxford University and University College London, acknowledged the instability of cryptocurrencies but disagreed with the notion that there are systemic risks associated with them. They also downplayed the risks due to the overall market value of cryptocurrencies being only about $600 billion, or – in relative terms – less than half that of Apple's market capitalization, and 20% more than that of Facebook (Monica, 2017). Some also highlighted the fact that cryptocurrencies are not currently 'systemically interconnected', reducing the probability of a contagion similar to the above-mentioned 2008 financial crisis occurring (Morris, 2017).

Additionally, according to the African Institute of Financial Markets and Risk Management[3] (2017), cryptocurrencies are not considered a systemic risk in South Africa, and therefore did not appear in their list of the Top 20 financial institutions with the highest Systemic Risk Contribution of 2017. Figure 2 shows the 7 highest systemic risk contributors, which does not mention cryptocurrencies as one of them.

[2] The Centre for Macroeconomics is a research center consisting of a group of experts devoted to carrying out pioneering research on global economic crises and helping to design policies to alleviate them. See https://www.centreformacroeconomics.ac.uk/.

[3] The African Institute of Financial Markets and Risk Management is an organization which focuses on Risk Management and Quantitative Finance. See http://www.aifmrm.uct.ac.za/.

Figure 2: Top 7 systemic risk contributors 2000-2017



Source: African Institute of Financial Markets and Risk Management (2017)

5. REGULATION OF CRYPTOCURRENCIES

Regulators in South Africa (S.A.), the United States (U.S.), the United Kingdom (U.K.) and China are aware of the aforementioned risks and have subsequently responded in the following ways:

In S.A., possibly due to cryptocurrencies not posing a systemic risk, they had so far gone widely unregulated. That was, until February of 2018, when former Minister of Finance Malusi Gigaba said in his 2018 Budget Speech that 'the emergence of cryptocurrencies is a major development [to the economy] to which our regulatory regime must respond' (National Treasury, 2018). Resultantly, in April of 2018, the South African Revenue Service (SARS) announced that

it now requires cryptocurrency owners and traders to declare their gains and losses on their tax returns and that failure to do so will result in interest charges and penalties (SARS, 2018). While SARS is still considering how value-added tax (VAT)[4] will apply to cryptocurrencies, the South African Reserve Bank is currently working with the National Treasury, the Financial Services Board and the Financial Intelligence Centre to evaluate potential regulatory frameworks for said currencies (Hedley, 2018). The Reserve Bank aims to look at cybersecurity considerations; risks concerning the clearing and settlement of cryptocurrencies; exchange control implications; and the implications for financial security and monetary policy (Cronje, 2018).

Like S.A., cryptocurrencies have remained partially regulated in the U.S. As of January 2018, however, Federal Judges have been trying to determine whether or not they have authority to regulate cryptocurrencies as they do stocks and bonds (Hurtado-Bloomberg, 2018; Liao, 2018). So far, in order to reduce the rate of cybercrimes associated with cryptocurrencies, the Financial Crimes Enforcement Network had already included them under their anti-money-laundering laws in 2013 (New Scientist, 2013).

Unlike S.A. and the U.S., however, China and the U.K. have imposed strict regulations on cryptocurrencies. In an attempt to discourage cryptocurrencies altogether, China's regulatory authorities have taken to freezing individual bank accounts associated with them. In the U.K., authorities demand complete transparency of information and shared data between cryptocurrency markets and institutions (McKenna, 2017), in order to eliminate the above-mentioned anonymity problem. These measures indicate that the regulators in the respective countries are making attempts to prevent cryptocurrency risks from possibly escalating and becoming systemic.

6. CONCLUSION

In this essay, the risks associated with Bitcoin/Cryptocurrencies were identified and discussed. These are: the volatility of the value of cryptocurrencies, the borrowing of funds to buy them and

[4] Section 7(1)(a) of the Value-Added Tax Act no. 89 of 1991 makes provision for the levying of VAT with respect to the supply by any vendor of goods and services in the course or furtherance of any enterprise carried on by that vendor (National Treasury, 1991).

the anonymity in cryptocurrencies (Tumber, 2015; Holodny, 2017; Hodgson, 2017). However, these risks were determined to be idiosyncratic instead of systemic. In other words, these risks are of such a small scale that even if they crash an entire cryptocurrency, they cannot be spilled over into the entire financial system (Systemic Risk Centre, 2018). It is therefore important that regulators are starting to exert control over this industry in order for it to grow and work for potential new investors whilst encountering no further risks, especially systemic risks (Cronje, 2018; Liao, 2018; McKenna, 2018). However, the author of this essay believes that this control should be kept at a minimum to still allow for the freedom that attracts investors to cryptocurrencies in the first place.

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