SOUTH AFRICAN BANKING LAW AND CRYPTOCURRENCIES

by

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1. Introduction

Since the beginning of human history, there have been notable milestones in the advancement of technology.[1] This ranges from the use of stones as knives to kill and slaughter animals, to the making of the first computer in 1946.[2] Technology in the financial services sector has also experienced notable progress. Not so long ago, the idea of a complete banking transaction without human interaction was considered impossible – the first ATM was only introduced to the South African banking industry in 1977.[3] Today, one can withdraw money, transfer funds, invest and make prepaid purchases, independently, on a mobile phone. This seems like all the improvement the financial services sector could ever need. However, as with most things, there is always room for improvement. As of late, there have been more exciting, cutting-edge technological innovations anticipated in the industry with the potential of completely changing the world's view of banking. One of these innovations is the concept of cryptocurrencies, more specifically bitcoin, and its underpinning blockchain technology.

Explained in simple terms, cryptocurrencies are digital currencies used by private persons, and corporate entities, to complete transactions and safely store value without requiring a central bank or the individual's identity.[4] In 2009, the first cryptocurrency, Bitcoin, came into being.[5] It was devised by a person or group of persons under the name "Satoshi Nakamoto" and was released as open-source software in 2009. Bitcoin is a peer-to-peer currency. Transactions take place between users directly, without the interference of a financial services institution. These transactions are verified by network nodes and recorded in a public distributed ledger called a blockchain.[6]

[1] Woodford "Technology timeline" 2017 http://www.explainthatstuff.com/timeline.html (28-08-2017).
[2] McCartney *Eniac: The Triumphs and Tragedies of the World's First Computer* (1999) 1 and O'Regan *A Brief History of Computing* (2012) 43.
[3] http://www.banking.org.za/consumer-information/bank-crime/atm-fraud.
[4] Antonopoulos *Mastering Bitcoin: Unlocking Digital Cryptocurrencies* (2014) 1.
[5] Nakamoto "Bitcoin: "A peer-to-peer electronic cash system" 2008 *Satoshi Nakamoto* 1 1.
[6] Nakamoto (n 5) and Antonopoulos (n 4).

Bitcoin can be used similarly to conventional currencies.[7] The main difference between conventional currencies and Bitcoin is that the latter is decentralized from central banks and it is only available and traded electronically.[8] This, *inter alia*, raises a number of regulatory concerns. The research herein seeks to address some of these concerns.[9]

It is worth noting that the concept of cryptocurrencies is in its infancy in all jurisdictions. In South Africa, the use of bitcoin as a means of exchange and storing value is not yet prevalent. However, it is growing at an alarming pace. Several online merchants now accept bitcoin as a means of payment for goods and services.[10]

There is a limited number of published papers focusing on the topic, more especially in South Africa. To date, there has not been one case heard in a court of law where the issues of cryptocurrencies were adjudicated on, and there is no piece of legislation regulating them. Most of the information discussed herein is sourced from news reports and research material from other jurisdictions. Therefore, this paper is aimed at, *inter alia*, unpacking cryptocurrency issues in the South African context.

The research paper will begin by outlining the history of money, from the concept of barter to the use of banknotes as a representative of value. It will then zoom into the South African history of banking – this will feature the opening of the first bank in South Africa and the eventual establishment of the South African Reserve Bank (henceforth "Reserve Bank") as the central bank of the Republic. The contemporary role of the Reserve Bank, as guided by the Constitution and the South African Reserve Bank Act (henceforth "Reserve Bank Act),[11] will follow. Thereafter, the paper will discuss the advent of cryptocurrencies. This portion will explain what exactly cryptocurrencies are and their underlying blockchain

[7] Antonopoulos (n 4) 5 and Swan *Blockchain: Blueprint for a New Economy* (2015) Preface ix.
[8] Antonopoulos (n 4) 1.
[9] For examples of concerns related to bitcoin see Kiviat "Beyond bitcoin: issues in regulating blockchain transactions" 2015 *Duke Law Journal* 570 588.
[10] Nieman "A few South African cents' worth on bitcoin" 2015 *PELJ* 1979 1993.
[11] Act 90 of 1989.

technology; and how they differ from conventional coins, banknotes and electronic funds. The paper will probe deeper into cryptocurrencies by discussing their prevalent advantages and disadvantages. After this, a discussion on the existence of cryptocurrencies in South Africa will follow. The existence and use of cryptocurrencies will be discussed in contrast with banking law as it is in South Africa, and the duties of the Reserve Bank as outlined in the Reserve Bank Act. An evaluation of the pros and cons of cryptocurrencies will follow, focusing on economic and regulatory standards of South Africa. A conclusion will then be submitted in light of all the variables discussed.

2. The history of money – from barter to banknotes

Below follows a short note outlining the development of societal means to carry out transactions. As it stands today, banknotes and coins are the main instruments used to store value and facilitate trade.[12] However, this was not always the case. Before the use of coins and banknotes, the method of bartering was the only means of trade.[13] If X, the fisherman, had extra fish but needed vegetables, he would exchange his fish to Y, the farmer, provided that he too has extra vegetables and needed some fish.[14] This, amongst other things,[15] was extremely restrictive and hindered the speed of trade in the market. The reason for this is that a successful barter needed a "double coincidence of wants"; this meant that for X to be able to trade his fish for vegetables, he would have to find Y who is willing to trade his vegetables for fish.[16] This was not as easy as one would expect it to be because Y might, in fact, have vegetables and be willing to part from them, but he might not want the fish offered by X.[17]

[12] This includes electronic instruments such as bank accounts, debit and credit cards etc.
[13] Caroline Humphrey, Stephen Hugh-Jones *Barter, Exchange and Value: An Anthropological Approach* (1992) 4 and Goosen *et al Banking in the New Millennium* (2008) 2.
[14] Goosen (n 13) 2.
[15] These include *exchange values*, *difficulties in accounting*, and the determination of *future value*. For a discussion on these disadvantages of barter see Goosen (n 13) 3.
[16] Jevons *Money and the Mechanism of Exchange* (1876) 4 and Goosen (n 13) 3.
[17] Andrei *Money and Market in the Economy of All Times: Another World History of Money and Pre-money Based Economies* (2011) 34; Goosen (n 13) 3.

As the "double coincidence of wants" hindrance was realised, a generic object of value was needed – this gave birth to the "emergence of money".[18] Gold, silver, grain and cattle, etc. became major forms of currency in the economy.[19] However, due to the inconvenience of carrying around precious stones to the marketplace (due to size and exposure to criminals), a safer method was needed.[20] The government then issued its own paper money and coins bearing its symbol and a design not too easy to counterfeit.[21] The value attached to this paper money was directly linked to the value of gold; this was known as the "gold standard".[22]

The gold standard eventually caused the circulation of gold to be ceased in the 19th century as it was replaced by paper money.[23] Banks became holders of gold on behalf of the owner and a note, similar to today's cheque, would be issued to the owner as proof that the owner has a specified amount of gold held on his behalf by the bank.[24] The owner would then use this note to trade in the market. This was how the notion of notes as a representative of value was born.[25]

Leading to, during and after World War I, the economy weakened. Government finances destabilised, international indebtedness increased and political deals changed drastically.[26] The gold standard could not be maintained. This resulted in a lack of trust in the monetary system and the need for an alternative system was imminent.[27] After the Second World War, the gold standard had ceased completely and made way for the fiat system to operate.[28] The fiat system is a monetary system whereby a currency is allowed to fluctuate against other currencies in the foreign-exchange markets, and the value of which is not based

[18] Andrei (n 17) 35 and Goosen (n 13) 4.
[19] For a full coverage of primitive forms of currency see Einzig *Primitive Money: In its Ethnological, Historical and Economic Aspects* (1966) 3 and Goosen (n 13) 6.
[20] Goosen (n 13) 8.
[21] Goosen (n 13) 9.
[22] Kemmerer *Gold and the Gold Standard: The Story of Gold Money, Past, Present and Future* (1944) 3 and Investopedia "What is the Gold Standard?" 2017 https://www.investopedia.com/ask/answers/09/gold-standard.asp (20/01/2018).
[23] Goosen (n 13) 11.
[24] Don Cleveland "A history of printed money" 2008 *International Bank Note Society* https://www.theibns.org/joomla/index.php?option=com_content&view=article&id=251&Itemid=127&limitstart=9 (01/09/2017) and Goosen (n 13) 13.
[25] Goosen (n 13) 13.
[26] Kemmerer (n 22) 107 and Investopedia (n 22).
[27] Kemmerer (n 22) 109.
[28] Friedman *Money Mischief: Episodes in Monetary History* (1994) 128.

on any commodity.[29] The government declares this currency as legal tender within its jurisdiction. The value to this currency is, for the most part, based on trust.[30]

In South Africa, the Dutch Governor Van Plettenberg introduced paper money in 1782.[31] This was due to his failure to obtain a sufficient quantity of coinage from the Netherlands, for the requirements of the settlement.[32] These notes were written by hand as there was no printing press in the Cape.[33] It was the first bank of South Africa, Lombard Bank, that was entrusted with the issuing of the Government notes.[34]

3. The history of banking in South Africa

The first bank in South Africa was the Lombard Bank, which started operating in Cape Town in 1793.[35] It was state-owned and was entrusted with issuing Government notes mostly in the form of a loan.[36] In 1883, the bank was forced out of business by the establishment of private banks – with the first private bank, the Cape of Good Hope Bank, being opened in 1836.[37]

From 1837 to 1882 more private banks were established and most of them distributed their own notes.[38] In 1877, the first imperial bank[39] was established in Cape Town. Subsequently, two other imperial banks were founded in the Cape, and they, too, issued their own notes.[40] With substantial funds, they flooded the

[29] Investopedia (n 22) above.
[30] Investopedia (n 22) above.
[31] Allen *Apartheid South Africa: An Insider's View of the Origin and Effects of Separate Development* (2005) 350.
[32] The Reserve Bank of South Africa https://www.resbank.co.za/BanknotesandCoin/SouthAfricanCurrency/BankNotes/Pages/HistoryofSouthAfricanbanknotes1782To1920.aspx (01/09/2017).
[33] Allen (n 31) 350.
[34] See notes 31 and 32 above.
[35] Goosen (n 13)16.
[36] Goosen (n 13) 16.
[37] Goosen (n 13) 17.
[38] Goosen (n 13) 17.
[39] This was The Standard Bank of British South Africa Ltd.
[40] Goosen (n 13) 17.

colony with branches and took over private banks. In 1892, all private banks were absorbed besides the Stellenbosch District Bank.[41] At the time of the South African Union in 1910, only the three imperial banks and the Stellenbosch District Bank issued paper money in their own name in Cape Town.[42]

The Reserve Bank, which is a central bank of South Africa, was established in 1921 under the Currency and Banking Act.[43] Prior to this, as discussed in the paragraph above, it was only imperial and private banks that issued banknotes to the public – each doing so in accordance with their internal policies. There was no uniformity regarding the issuance of banknotes.[44] The only obligations which commercial banks had to meet were to convert, into gold, notes held by the public when tendered at their branches, and to keep one-third of their notes as reserves.[45]

After the First World War (1914 - 1918), the price of gold in the United Kingdom increased; it held more value in the UK than it did in South Africa.[46] This meant that profit could be made by converting banknotes into gold in South Africa and selling the gold in London.[47] This "obligation to trade at a loss" posed a serious threat to the ability of banks to continue meeting their obligations.

Upon this threat to their sustainability, commercial banks came together to plead with the Government to release them from the obligation to exchange their banknotes into gold on demand.[48] Upon this request, a Gold Conference was held in 1919 where a Select Committee of Parliament recommended that a central bank be established.[49] This bank was to assume, *inter alia*, the responsibility of issuing banknotes. The South African Parliament accepted the

[41] The Reserve Bank (n 32).
[42] See The Reserve Bank (n 32) above and Mbuya *The Pillars of Banking* (2008) 194.
[43] Act 31 of 1920; Mbuya (n 42) 194.
[44] Mbuya (n 42) 194.
[45] Mbuya (n 42) 196.
[46] Baliño and Cottarelli *Frameworks for Monetary Stability: Policy Issues and Country Experiences* (1994) 45; Sgro *International Economics, Finance and Trade* (2009) 140; The South African Reserve Bank https://www.resbank.co.za/Pages/default.aspx (26/10/2017).
[47] Goosen (n 13) 19.
[48] The Reserve Bank (n 32).
[49] The Reserve Bank (n 32) and Goodson *Inside the South African Reserve Bank - It's Origins and Secrets Exposed* (2014) 22.

recommendations and the Currency and Banking Act,[50] which provided for the establishment of the Bank, was promulgated in December 1920. The Reserve Bank began its operations on 30 June 1921.[51]

4. The Reserve Bank, today

The Reserve Bank plays a critical role in the South African banking industry, today. Its main objective, *inter alia*, is to protect the value of the currency in the interest of balanced and sustainable economic growth in South Africa.[52] Sections 223, 224 and 225 of the Constitution set out the establishment and primary object, and states that the powers and functions of the Reserve Bank are to be determined by an act of parliament.

The Reserve Bank Act[53] and the regulations promulgated under it provide for the enabling framework of the Reserve Bank's operations. In a nutshell, the objective of the Act is "to consolidate the laws relating to the [Reserve Bank] and the monetary system of the Republic; and to provide for matters connected therewith".[54]

5. The advent of cryptocurrencies – a disruption of the status quo

5.1 Cryptocurrencies in a nutshell

In short, the *Oxford Dictionary* defines the term "cryptocurrency" as:

[50] Act 31 of 1920.
[51] For a thorough discussion of the history and the establishment of the South African Reserve Bank see Goodson (n 49) 19.
[52] s224 (1) of the Constitution of the Republic of South Africa, 1996.
[53] The South African Reserve Bank Act (n 11).
[54] The South African Reserve Bank Act (n 11), preamble.

> "A digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank."[55]

The first cryptocurrency to be created was bitcoin. As mentioned in the introduction, bitcoin was created by Satoshi Nakamoto in 2008 and was released to the public in 2009 as open-source software.[56] No individual owns bitcoin as it operates on a peer-to-peer system and transactions take place between users directly without an intermediary such as a bank or any other financial services institution.[57] This means that it does not have a central issuing authority or a regulating body. There is no organisation responsible for it. Bitcoin transactions are recorded in a public ledger, called the blockchain, which essentially ensures that the bitcoin community is aware of the transaction and that the same bitcoin cannot be used to complete a second exchange.[58] As with cash, bitcoin can be used in exchange for another conventional currency or cryptocurrency. It can be used to purchase goods and pay for services, or held as an investment.[59] It is worth noting that bitcoin is not the only cryptocurrency – there are others that were created after bitcoin was released. The most popular cryptocurrency besides bitcoin is ethereum, which was launched in 2015 and released to the public in 2016.[60]

5.2 Blockchain technology

Explained in the most basic manner, blockchain is a public ledger that records all bitcoin transactions.[61] As discussed immediately above, bitcoin is an electronic asset that, in theory, can be copied and duplicated.[62] However, this would not be

[55] The Oxford Dictionary Online https://en.oxforddictionaries.com/definition/cryptocurrency (19/01/2018).
[56] Nakamoto (n 5).
[57] Antonopoulos (n 4) 1-3.
[58] *Ibid*
[59] Antonopoulos (n 4) 1.
[60] For more information on the creation and use of ethereum see Abner *Ethereum: A Look into the World of Ethereum and How to Trade and Invest This Cryptocurrency!* (2016) 4; and Dannen *Introducing Ethereum and Solidity: Foundations of Cryptocurrency and Blockchain Programming for Beginners* (2017) 2.
[61] Swan (n 7) Preface ix.
[62] Swan (n 7) 2.

feasible for a currency as one would be able to use the same bitcoin to complete multiple transactions. [63] Blockchain prevents this. [64] Each time a bitcoin transaction is completed, it is recorded in a global ledger.[65] This ledger records every single bitcoin transaction globally.[66] It is important to note that there are no individuals or organisations that are responsible for these records. According to select analysts and blockchain enthusiasts this renders blockchain an extremely risky tool to trade bitcoin.[67] Any individual can assume the role of recording and keeping these transactions; this is what makes bitcoin a "peer-to-peer" system.[68] The individuals that assume the role of recording and keeping bitcoin transactions are referred to as "miners".[69] The blockchain network has a built-in system that rewards miners with a specified amount, in bitcoin, for each block of transactions they add onto the chain.[70]

Blockchain enthusiasts, Khoza and Visser, note a difficulty with the potential use of blockchain in the financial markets. They pose the following question:

> "Could blockchain, where it is used to facilitate the sale of securities – and where record of those transactions are kept on blockchain – fall to be regulated as an exchange under the Financial Markets Act (FMA)?"[71]

This is a huge concern for financial markets; however, it is not imminent because there has not been much conversation about the use of blockchain in the financial markets. Therefore, this question will not be discussed any further in this paper – it is too remote.

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[63] Swan (n 7) 2.
[64] Swan (n 7) 2.
[65] Mougayar *The Business Blockchain: Promise, Practice, and Application of the Next Internet Technology* (2016) 4 and Swan (n 7) 2.
[66] Swan (n 7) 2.
[67] Kim *et al* "The analysis and countermeasures on security breach of bitcoin" 2014 *Computational Science and Its Applications - ICCSA* 720 721.
[68] Swan (n 7) Preface x.
[69] Nieman (n 10) 1993.
[70] For an elaborative discussion on mining bitcoin, see Stevenson *Mining Bitcoins* (2013) 6 and Nieman (n 10) 1994.
[71] Act 19 of 2012; Khoza *et al* "Blockchain Revolution and Financial Regulation in South Africa" 2016 https://www.tech4law.co.za/news-in-brief/59-law/2233-blockchain-revolution-and-financial-regulation-in-south-africa (14/10/2017) and for an extensive discussion on blockchain and its impact on the financial markets see Vermaas "Blockchain and the settlement and holding of securities in the South African legal framework" in Hugo and Kelly-Louw (eds) *JOPIE: Jurist, Mentor, Supervisor and Friend* (2017) 207.

5.3 The advantages of cryptocurrencies

The concept of cryptocurrencies is growing every day in the global financial arena. A number of countries have endorsed it, and others are holding discussions on how to take complete advantage of it.[72]

The emergence of bitcoin and its underlying blockchain technology does not only have the potential to transform conventional banking methods, but also the potential to transform many other industries. Blockchain can impact on the public sector by facilitating the management of public records and elections; it can impact on the healthcare industry by keeping private records in a manner that is easy to access; it can also impact on the retail industry by managing large ticket sales.[73] Below, a few of the main advantages of cryptocurrency are dealt with.[74]

- *They eliminate financial fraud in electronic transactions*

Cryptocurrencies cannot be counterfeited or reversed haphazardly by the sender, as with credit card reversals. Some cryptocurrency enthusiasts consider this a disadvantage[75] in that a holder of the cryptocurrency, having sent the funds by mistake, duress or misrepresentation, cannot reverse the payment.[76] However, this can also be considered an advantage as it protects merchants who are victimised by purchasers who, via conventional banking platforms, transfer required money successfully and later reverse it, leaving the merchant unpaid. It is therefore submitted that this element can be considered as both an advantage and disadvantage – depending on the perspective from which one examines it.

[72] Bajpai "Countries where bitcoin is legal & illegal (DISH, OTSK)" 2015 http://www.investopedia.com/articles/forex/041515/countries-where-bitcoin-legal-illegal.asp (10/09/2017).
[73] Singer "Where to next for South Africa's financial markets?" *Jutastat Online Journal* 2016 (1) CR 26.
[74] Rosic "7 incredible benefits of cryptocurrency" 2016 http://www.huffingtonpost.com/ameer-rosic-/7-incredible-benefits-of-_1_b_13160110.html (12/09/2017).
[75] Valdez and Molyneux *An Introduction to Global Financial Markets* (2015) 73.
[76] Mullan *A History of Digital Currency in the United States: New Technology in an Unregulated Market* (2016) 29.

- *They allow for instant clearance*[77]

Cryptocurrencies can be transferred from one location to another, in any part of the world, in an instant. A confirmation to a transaction takes approximately 10 to 15 minutes to be recorded onto the global ledger, or blockchain.[78] This vastly beats the norm. Conventional electronic funds transfers, carried out by conventional financial institutions, take up to several days to complete in the case of international transactions.

- *There are lower fees involved*[79]

There are generally lower transactional fees charged when transacting cryptocurrencies as compared to conventional electronic fund transfers.[80] As briefly discussed above, it is the collective network that compensates the keepers of the blockchain ledger, which are the miners.[81] This function is built onto the blockchain system and the funds are collected from the persons transacting in bitcoin, collectively.

- *It decreases the risks of identity theft*[82]

When a consumer issues his or her credit card to a merchant, the merchant is able to access his or her personal information similar to that which was given to the bank when the account was opened.[83] By issuing a credit card to the merchant, the merchant is given the right to initiate the payment and pull the

[77] Madura *Financial Markets and Institutions* (2016) 450.
[78] Swan (n 7) 82.
[79] Madura (n 77) 450.
[80] Moore *Cybersecurity Breaches and Issues Surrounding Online Threat* (2016) 131.
[81] Nieman (n 10) 1994.
[82] Murphy "The real advantage of paying with bitcoin" 2014 https://www.cnbc.com/2014/12/09/the-real-advantage-of-paying-with-bitcoin-commentary.html (10/09/2017).
[83] For more discussions on the data that banks obtain from their customers and its potential use, see Lewis "For banks, customer data is the new king" 2013 http://www.ey.com/Publication/vwLUAssets/EY_-_The_upside_of_compliance/$FILE/EY-The-upside-of-compliance-Steven-Lewis.pdf (15/09/2017).

desired amount from the consumer's bank account. Cryptocurrency works in the opposite direction – the cryptocurrency holder is the one that initiates the transactions by sending, to the merchant, the desired amount. This does not allow the merchant to gain access to the consumer's personal information.

- *They allow access to banking facilities to more people*

An article published in the *Huffington Post* stated that:

> "There are approximately 2.2 billion individuals with access to the Internet or mobile phones but don't have access to traditional exchange; these people are primed for the Cryptocurrency market."[84]

The M-pesa system[85] announced a bitcoin device wherein 33.3% Kenyans own a bitcoin wallet.[86] This is one of the examples depicting the potential growth of cryptocurrency. The number of countries endorsing cryptocurrency, more particularly bitcoin, is growing day by day.[87] This serves as a strong signal that the *bank of the future* will most likely have cryptocurrencies as one of its main forms of exchange.[88]

- *Decentralisation from governmental authorities*

As discussed above, cryptocurrencies, more particularly bitcoin, use a global network of computers that uses the blockchain technology to manage the

[84] Rosic (n 74).
[85] This is a mobile phone-based money transfer, and micro financing service. See Batiz-Lazo *et al The Book of Payments: Historical and Contemporary Views on the Cashless Society* (2016) 239; Vigna *et al The Age of Cryptocurrency: How Bitcoin and Digital Money Are Challenging the Global Economic Order* (2015) 211.
[86] Kastelein "Bitwala offers bitcoin to M-Pesa services in Kenya, Nigeria, Uganda, and Tanzania" 2017 http://www.the-blockchain.com/2017/03/12/bitwala-offers-bitcoin-m-pesa-services-kenya-nigeria-uganda-tanzania/ (12/09/2017).
[87] For a topographical map showing countries that have allowed the use of bitcoin, see: http://money.cnn.com/interactive/technology/where-is-bitcoin-legal/ (15/09/2017) and Bajpai (n 72).
[88] Locke "Change as the only constant: The future bank and implications for regulation" in Hugo and Du Toit (eds) *Annual Banking Law Update* (2017) 3.

database that records and keeps bitcoin transactions.[89] This means that a network, not a government authority like the Reserve Bank, manages bitcoin. This network operates on a peer-to-peer basis.[90] This is regarded as an advantage because an individual who wishes to transfer funds from one country to another will not be bothered with, *inter alia*, currency exchange rates and having to wait several days for his transactions to be carried out.[91] On the contrary, this could also be considered as a disadvantage because there is no authority to which irregularities can be reported, making bitcoin more risky.[92]

- *Cryptocurrencies are recognised universally*

A country's economic performance or status does not bind or affect cryptocurrencies. This allows them to be used at an international level without being bound by domestic complications such as exchange rates and the like. This saves time and money for businesses, and individuals, that make, or receive, international payments.[93] This has a potential to boost investor confidence since making payments would be a lot easier and there would be less (or even no) involvement of domestic laws.

- *Transactional information is transparent*

With blockchain technology being used to keep record of every transaction, the information on these transactions is public.[94] It is available for anyone in the world to see. This allows for complete transparency and limits the likelihood of fraud being carried out as "blocks" confirm each transaction publicly.[95]

[89] Antonopoulos (n 4) 1-3.
[90] Antonopoulos (n 4) 1-3.
[91] Rosic (n 74).
[92] Kim (n 67) 721.
[93] Rosic (n 74).
[94] Swan (n 7) Preface x.
[95] *Ibid*

5.4 The disadvantages of cryptocurrencies

Although the media does not often mention the negative side of cryptocurrencies, there are several. These formulate the reason why, after cryptocurrencies have been given so much praise, they have not replaced credit cards and other conventional methods of payment. Some of the main disadvantages of cryptocurrencies are dealt with below.[96]

- *Payments made in cryptocurrencies are irreversible*

One of the advantages to cryptocurrencies, as discussed above, is the fact that it is decentralised. A downside to this is that once a payment is made, it cannot be reversed – there is no central institution responsible for processing payments. Once the cryptocurrency is sent to the payee, whether by mistake or purposefully, the payer cannot be refunded unless the payee consents and authorises it.[97]

- *Cryptocurrencies are not widely accepted; however there are a few merchants accepting them*

This is a temporary disadvantage. As the idea of cryptocurrencies is still at its infancy, not many merchants accept cryptocurrencies as a medium of payment. This serves as a disadvantage to the consumer as he or she will be limited in his use of cryptocurrencies for payment.[98]

It is worth noting, however, that the number of merchants that are considering accepting bitcoin in South Africa is growing. A major South African supermarket,

[96] Mercadante "Cryptocurrencies – 7 things you should be aware of regarding the future" 2017 https://www.personalincome.org/future-of-cryptocurrencies/ (16/09/2017).
[97] Mullan (n 76) 29.
[98] For a short list of major online merchants who accept cryptocurrencies, particularly bitcoin, see Moreau "6 major retailers and services that accept bitcoin" 2017 https://www.lifewire.com/big-sites-that-accept-bitcoin-payments-3485965 (16/09/2017).

Pick n Pay, partnering with *Luno*,[99] has developed a till point system that allows its customers to pay for their goods in bitcoin.[100] The payment process is relatively easy. To make a payment, the customer would have to scan a QR code using a bitcoin wallet application on his or her smartphone.[101] Merchants such as *Earthchild* and *Checkout Supermarket* are also considered as merchants that accept bitcoin and other cryptocurrencies.[102]

- *Risk of permanent loss*

Cryptocurrencies are stored in a digital wallet that is secured by a set of keys, namely a public key and a private key.[103] These keys are issued to the account-holder at the time the account is opened on the cryptocurrency network. Both keys are used for securing one's account and also to verify transactions. The private key is used to secure the account and verify transactions, while the public key is used to identify the sender or holder of the cryptocurrency and thereby verify the transactions.[104] As there is no central government institution responsible for hosting and maintaining the wallet, losing the private key is permanent – it cannot be recovered.[105] For persons relying on cryptocurrencies to hold huge amounts of money, this is a concerning factor. Forgetting or losing the private key to the wallet means losing money that can never be recovered unless the key is remembered.

Despite the above, it is worth noting that recently there have been developments that could make it possible for one to recover a lost wallet private key. There are

[99] LUNO is a Bitcoin company based in London. It has operations in the United Kingdom, Malaysia, Indonesia, Nigeria, South Africa and 35 other European countries.
[100] McLeod "Bitcoin now accepted at Pick n Pay" 2017 https://www.moneyweb.co.za/news/tech/bitcoin-now-accepted-at-pick-n-pay/ (05/10/2017).
[101] *Ibid*
[102] Visser "Where to spend bitcoin in South Africa" 2016 https://www.luno.com/blog/en/post/south-africa-pay-with-bitcoin (05/10/2017) and Nieman (n 10) 1993.
[103] Franco *Understanding Bitcoin: Cryptography, Engineering and Economics* (2014) 123 and Swan (n 7) 3.
[104] For a thorough and technical discussion on bitcoin wallet keys, see Antonopoulos (n 4) 61.
[105] Sparkes "The £625m lost forever – the phenomenon of disappearing bitcoins" 2015 http://www.telegraph.co.uk/technology/news/11362827/The-625m-lost-forever-the-phenomenon-of-disappearing-Bitcoins.html (16/09/2017).

a number of individuals, and even companies, that offer the service of decrypting wallet keys. These are not secured or confirmed; therefore their references have been omitted from this paper. As it stands, it is submitted that one cannot recover a lost private key to a cryptocurrency wallet.

- *Price volatility*

Due to a number of ill-informed perceptions and controversy, such as reports about governments planning to regulate or prohibit the use of cryptocurrencies, investors in cryptocurrency are challenged by a number of concerns.[106] This contributes to the volatility of cryptocurrencies. Other factors that influence price volatility include: the perceived store of value; the limited option that large holders have when they consider liquidating their cryptocurrency; reports on security risks affecting holders of bitcoin; and different domestic tax regulations on cryptocurrencies.[107]

- *Due to their anonymous and decentralised nature, cryptocurrencies attract criminal transactions*[108]

With cryptocurrencies offering benefits such as anonymous transactions and irreversible payments, they seem to be the perfect instruments for criminals to make illegal funds transfers. The payer cannot be traced, nor can the receiver. The network is global, which facilitates global crimes such as human and drug trafficking. Moreover, the absence of a central body to investigate suspicious payments is another positive element for criminals.

[106] Barker "Why is bitcoin's value so volatile?" 2017 http://www.investopedia.com/articles/investing/052014/why-bitcoins-value-so-volatile.asp (16/09/2017) and Barnes "Bitcoin price warning: Cryptocurrency volatility 'isn't going away anytime soon" 2018 https://www.express.co.uk/finance/city/910448/bitcoin-price-USD-news-value-BTC-Ripple-ethereum-cryptocurrency-buy (27/01/2018).
[107] *Ibid*
[108] For a thorough discussion on the vulnerability of cryptocurrencies to criminal exploitation, see Platt *Criminal Capital: How the Finance Industry Facilitates Crime* (2015) 49.

There has not been much media coverage on the vulnerabilities of cryptocurrencies to criminal facilitation. Most media reports focus on the positive features of cryptocurrencies. It is submitted that this is misleading to a layperson looking to, perhaps, invest in these currencies. Better awareness of the gloomy side of cryptocurrencies is needed and, of course, the law should intervene to address these issues adequately. The Reserve Bank, in its 2014 position paper, warns the public of the risks posed by cryptocurrencies and their vulnerability to crimes such as money laundering and the financing of terrorism. It also lists potential risk to consumers, for example security breach, fraud, transaction processing error, and the absence of insurance mechanisms.[109]

The above negatives and positives to cryptocurrencies are, of course, not conclusive. There are many others. The above list merely highlights the most prevalent. Below, the focus is on cryptocurrencies in the South African context.

6. Cryptocurrencies in South Africa, today

There are numerous cryptocurrencies worldwide, including Bitcoin, Ethereum, Litecoin, Zcash, Dash, Ripple and Monera.[110] Similar to most countries where cryptocurrencies are traded, bitcoin is the most traded in South Africa, with Ethereum coming out second. This was established in the 2017 *MyBroadband Cryptocurrency Survey* covering a group compiled, mostly, of Information Technology professionals and enthusiasts.[111] The most used exchange platform is *Luno*, with *Bittrex* and *Poloniex* following behind on the numbers.[112] This gives an indication that, although cryptocurrencies are not regulated or officially recognised in the country, they are utilised as a medium of trade and investment by technically competent South Africans.

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[109] The South African Reserve Bank *National Payment System Department Position Paper on Virtual Currencies* (2014) (Position Paper number 02/2014) 9.
[110] Bajpai "The 6 most important cryptocurrencies other than bitcoin" 2017 http://www.investopedia.com/tech/6-most-important-cryptocurrencies-other-bitcoin/ (04/09/2017).
[111] See in *MyBroadband* where the results of the survey were published: https://mybroadband.co.za/news/cryptocurrency/230847-how-much-south-africans-have-invested-in-bitcoin.html (04/10/2017).
[112] *Ibid*

Until recently, when compared with other jurisdictions, South Africa was behind in its recognition and embracing of cryptocurrencies.[113] Marinos submits as follows:

> "Of late, corporations like Microsoft, Dell and Expedia are amongst a host of corporations that have begun to accept payments in Bitcoin. Central banks of various countries, including India's Reserve Bank, have acknowledged Bitcoin as a currency of the future."[114]

A position paper published by the Reserve Bank in 2014 vehemently rejected the idea of overseeing virtual currencies. It stated that:

> "… [A]ny and all activities related to the acquisition, trading or use of [virtual currencies]… are performed at the end-user's sole and independent risk and have no recourse to the Bank."[115]

Lately, however, it seems that the Reserve Bank has begun to change its perception on cryptocurrencies. The Reserve Bank's deputy governor[116] openly admitted that cryptocurrencies pose no risk to the financial stability, price stability and the National Payment System. However, he maintained that it is excessively risky for the Reserve Bank to endorse it, and even more so to launch its own.[117] It is nevertheless submitted that the most likely direction for the Reserve Bank in the near future is to endorse, and entirely regulate, the use of cryptocurrencies in South Africa. It is noted that the Republic has been taking significant steps towards solidifying a regulatory framework for cryptocurrencies.

Currently, the concept and use of cryptocurrencies are heavily debated in South Africa, and conclusions are mainly positive. Many suggestions have been issued to the Reserve Bank that it must adopt an "open-mind" to the consideration of

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[113] Locke (n 88) 16.
[114] Marinos "e-Commerce is booming in India, bitcoin is the future" 2016 https://cointelegraph.com/news/e-commerce-is-booming-in-india-bitcoin-is-the-future (16/09/2017).
[115] The South African Reserve Bank (n 109) 12.
[116] Francois Groepe, who was first appointed as a deputy governor of the Reserve Bank in January 2012, and was reappointed for another 5-year term in January 2017.
[117] Naidoo "South Africa open to digital currency" 2017 http://www.morningsidenews.co.za/south-africa-open-to-digital-currency/ (17/09/2017).

issuing its own cryptocurrency. These, in my opinion, have been received with minimal attention until recently. In July 2017, South Africa's Minister of Finance, Malusi Gigaba, finally revealed that the Reserve Bank intends to pilot regulations pertaining to virtual currencies.[118] It was reported that the Minister "desire[s] to adopt a 'balanced approach' with regards to bitcoin and cryptocurrency regulations".[119]

Private entities, too, are taking a pro-cryptocurrency stance and have been working on pilot projects to determine how they could take advantage of blockchain technology, the backbone to the existence of bitcoin. R3, a distributed database company, has partnered with various financial institutions, including South Africa's *Standard Bank Group* and *ABSA*, to develop a permissioned blockchain system, Corda™,[120] which requires a certain level of clearance to join and can be linked to legal tender.[121]

In early 2017, it was announced that *Sagteware.NET* [122] developed a cryptocurrency called *Number42*, which is intended to replace the already established foreign cryptocurrencies such as bitcoin and ethereum.[123] This is a sign of a deeper understanding of cryptocurrencies, and a realisation of innovative opportunities that the blockchain technology can bring to the economy of South Africa.

The developments highlight South Africa's progress towards embracing cryptocurrencies, and, it is suggested, are a step forward for South Africa's economy. Going forward, the South African banking law position will be examined

[118] Haig "South Africa to take 'balanced approach' to bitcoin and cryptocurrency regulations" 2017 https://news.bitcoin.com/south-africa-to-take-balanced-approach-to-bitcoin-and-cryptocurrency-regulations/ (17/09/2017).
[119] *Ibid*
[120] For more information on the product, see its official webpage at https://www.corda.net/ (17/09/2017).
[121] Letsebe "Standard Bank joins global blockchain consortium" 2017 https://www.itweb.co.za/content/VKA3WwMdlXRMrydZ (20/01/2018).
[122] It is a Johannesburg-based software company. For more information on the product, see its official webpage at https://sagteware.net/ (17/09/2017).
[123] Moyo "SA-developed cryptocurrency takes on bitcoin" 2017 http://www.itweb.co.za/index.php?option=com_content&view=article&id=161511 (17/09/2017).

with the specific intention of determining whether the advent of cryptocurrencies will affect the law, and/or require it to change.

7. Cryptocurrencies and the South African banking law

7.1 Introduction

The *Business Dictionary* defines a bank as an establishment authorized by a government to accept deposits, pay interest, cheques, make loans, act as an intermediary in financial transactions, and provide other financial services to its customers.[124] The Banks Act defines it as a public company registered as a bank in terms of section 16 of the same.[125] Conventionally, these companies are the main providers of financial services in South Africa. However, lately there has been an influx of Financial Technology (henceforth "Fintech")[126] companies that have made their way into the industry – and their regulatory structure is not as clear as that of conventional banks. Nieman submits that there is no legislation relating specifically to Fintech companies, cryptocurrencies, or the blockchain technology in South Africa.[127] The Reserve Bank, in its 2014 position paper, also declared that cryptocurrencies are not legal tender, and therefore, as it stands, there is no legal recourse for cryptocurrency users in South Africa.

For structure and regulation purpose, banking law can be divided into two parts, namely private banking law and public banking law. The former regulates the legal relationships between banks and their customers who enter into agreements with the bank, and the latter regulates the relationships between banks and organs of state having authority over banks.[128] The Banks Act[129] and

[124] *The Online Business Dictionary* http://www.businessdictionary.com/definition/bank.html (20-03-2017).
[125] See n 129 below, s 1.
[126] For an elaborate discussion on Fintech companies see: Nicoletti *The Future of FinTech: Integrating Finance and Technology in Financial Services* (2017) 3.
[127] Nieman (n 10) 1988.
[128] Schulze "The nature of banking law and its sources" in Sharrock (Managing Editor) *The Law of Banking and Payments in South Africa* (2006) 24.
[129] Act 94 of 1990.

the Mutual Banks Act[130] largely regulate the private banking sector. The former regulates commercial, retail and investment banks while the latter regulates second-tier banks, such as mutual banks, the Post Bank of South Africa and co-operative banks. Over and above these banks, there are also other forms of financial services institutions that are less regulated. They are formal, and sometimes informal, institutions that provide "bank-like" services.[131] Good examples of these would be the likes of *Stokvels* and the so-called Fintech companies.

Given the current financial services regulatory structure in South Africa, and the nature of cryptocurrencies as discussed above, one cannot help but wonder how South Africa will accommodate the advent of cryptocurrencies, if the Reserve Bank eventually decides to do so. It is without a doubt that conventional ways of banking will drastically change – and that the law that regulates the industry will also need to evolve as a consequence.

To date, South African banking regulations have managed to keep up with the rapid financial technology improvements. These improvements have also maintained their compliance to banking regulations. All innovative ways of banking introduced by financial services institutions have somehow found a way to be compliant with the regulations. For example, the improvement of speed and the decrease of human interaction when on-boarding a client has not affected *Know Your Client*[132] as required by the Financial Intelligence Centre Act;[133] the massive expansion of telemarketing has maintained, to a certain extent, consumer privacy as prescribed by the Protection of Personal Information Act,[134] and compliance to general duties imposed by various statutes has been maintained regardless of the drastic decrease of brick-and-mortar banks.[135]

[130] Act 124 of 1993.
[131] Schulze (n 128) 3.
[132] Abbreviated as "KYC." This refers to a process adopted by an institution, mostly financial services institutions, to ensure that they have obtained and verified all their customer details as prescribed by the Financial Intelligence Centre Act 38 of 2001, s 21.
[133] Act 38 of 2001.
[134] Act 4 of 2013.
[135] Tarrant "Banks have been cutting branches for years" 2016 https://www.moneyweb.co.za/news/companies-and-deals/banks-have-been-cutting-branches-for-years/ (15/10/2017).

These are some of the highlights of the developments, and regulatory compliance thereto, of financial technology in South Africa.

It is not clear, however, whether the arrival of cryptocurrencies will maintain regulatory compliance. It has been reported in the media that the Reserve Bank is partnering with Fintech companies such as *Bankymoon*[136] to run tests to determine whether blockchain technology can be used in South Africa's financial services sector and be well regulated.[137] To date, we await the results of the tests.

The central bank of South Africa, the Reserve Bank, is regulated by the Reserve Bank Act,[138] which is the most relevant legislation in this regard. It bestows, on the Reserve Bank, the duty to protect the South African currency, the Rand.[139] This duty is analysed below. A number of other South African Acts, and their relevance to cryptocurrencies, are also discussed.

7.2 The duty of the Reserve Bank to protect the value of the Rand

The Reserve Bank is identified as the central bank of South Africa in the Constitution.[140] It is a creature of statute and therefore it is only permitted to perform functions expressly conferred upon it by the Reserve Bank Act.[141] Below, a brief analysis of the duties of the Reserve Bank, as provided for by the Reserve Bank Act, will follow. These duties play a critical role in the protection and maintenance of the value of the South African Rand.

Section three of the Reserve Bank Act, read together with section 224 of the Constitution, provides as follows:

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[136] For more information on this company, see their official website: http://bankymoon.co.za.
[137] BusinessTech "Reserve Bank to begin testing bitcoin and cryptocurrency regulations" 2017 https://businesstech.co.za/news/finance/186533/sa-reserve-bank-to-begin-testing-bitcoin-and-cryptocurrency-regulations/ (29/09/2017).
[138] The South African Reserve Bank Act (n 11).
[139] The South African Reserve Bank Act (n 11), s 3.
[140] The Constitution of the Republic of South Africa, 1996, s223.
[141] Mboweni "The role of the South African Reserve Bank in the economy" 2000 *BIS Review* 24.

> "The primary objective of the [South African Reserve] Bank shall be to protect the value of the currency of the Republic in the interest of balanced and sustainable economic growth in the Republic."[142]

Both of the above statutory provisions bestow, upon the Reserve Bank, the duty to ensure that the currency of South Africa is protected. This includes the protection of the value of the currency in relation to other currencies, and the maintenance – and improvement – of the South African economy.

These provisions place the Reserve Bank under pressure when considering South Africa's position on cryptocurrencies. In light of the above-listed positives and negatives of cryptocurrencies,[143] endorsing them may have positive or negative consequences for South Africa's economy. For example, if the Reserve Bank rejects cryptocurrencies, investors who prefer trading in cryptocurrencies might disregard South Africa as an investment destination. In this case, endorsing cryptocurrencies can be a positive decision for South Africa. However, on the other hand, if cryptocurrencies were later to be regarded as a risky method of transacting, endorsing them could be a detrimental decision for the South African economy. It is a tough decision for the Reserve Bank to make.

Section 10 of the Reserve Bank Act lists the powers and duties of the Reserve Bank. It provides as follows:

> "(1) The Bank may… -
>
> (a) (i) make banknotes or cause banknotes to be made;
> (ii) coin coins or cause coins to be coined;
> (iii) issue banknotes and coins, or cause banknotes and coins to be issued, for use in the Republic;
> (iv) make, or cause to be made, banknotes to be issued for use in another State, and coin, or cause to be coined, coins to be so issued; and
> (v) destroy banknotes and coins or cause them to be destroyed;"

[142] The South African Reserve Bank Act (n 11), s 3 and the Constitution of the Republic of South Africa, 1996, s 224 (1).
[143] See para 5.3 and 5.4 above.

The above list bestows, upon the Reserve Bank, the right to make and issue coins and banknotes in the Republic. These coins and banknotes are attached to the Rand currency. The provision does not make mention of a creation of alternative currencies or complete substitutes to coins and banknotes. However, it is worth noting that it also does not prohibit such substitutes. It is submitted that this indicates that the Reserve Bank can introduce, create and issue alternative banknotes, coins, and/or other currencies if it deems it necessary for the well-being of the economy of South Africa.

Section 15 stipulates the official currency of the Republic. It reads as follows:

> "(1) Subject to the provisions of section 14(1), the monetary unit of the Republic shall be the rand (abbreviated as R), and the cent (abbreviated as c), which is one hundredth part of the rand."[144]

Read together with section 17 of the Reserve Bank Act, it follows that any other currency, besides the Rand, is not legal tender in the Republic. The Reserve Bank has also declared, in its 2014 position paper on cryptocurrencies, that payment in cryptocurrencies is not necessarily illegal, however, it does not amount to legal tender as specified in section 17.[145]

Section 14 of the Reserve Bank Act deals with the issuing of coins and banknotes in the Republic. It bestows all the rights to issue coins and banknotes on the Reserve Bank but requires the Reserve Bank first to acquire Government's approval when issuing coins and banknotes with new designs, for circulation. It provides as follows:

> "The Bank shall have the sole right to issue or cause to be issued banknotes and coins in the Republic: Provided that all coins which at the commencement of the South African Reserve Bank Amendment Act, 1989, were lawfully in circulation and legal tender in the Republic, shall as such remain in circulation until they are withdrawn from circulation in accordance with the provisions of section 19, or are no

[144] The South African Reserve Bank Act (n 11), s 15 (1).
[145] The South African Reserve Bank (n 109) 9.

longer of the current mass prescribed in Schedule 2 in respect of the denomination in question."[146]

One may argue that the concept of cryptocurrencies is a "new design" as contemplated in section 14 and therefore would not be within the Reserve Bank's jurisdiction to make the final decision on whether South Africa accepts them. This argument would be incorrect. It is submitted that this provision speaks specifically to the issuing of banknotes and coins representing the Rand currency. It makes no mention of cryptocurrencies or any other alternative to the Rand itself. However, in making this submission, it is accepted that the endorsement of cryptocurrencies would be a significant step for the economy and legal framework of South Africa. Not to seek the Government's involvement would be a major error and contrary to generic domestic legal processes. It is submitted that the issue should be considered by, for example, the Ministry of Finance, debated in parliament, and public opinions should be called in before cryptocurrencies are officially implemented.

This paragraph concludes that the Reserve Bank is indeed given the responsibility of ensuring the maintenance and protection of the currency of the Republic. The issue that remains unanswered is whether or not the endorsement, or disregard, of cryptocurrencies constitutes an act that protects the value of the Rand and the South African economy. It is submitted that this is a question of financial and economic sciences, and not necessarily of law. As far as the law is concerned, the writer submits that the Reserve Bank merely has a duty to protect the Rand.

Below, a discussion of other relevant statutes will follow, and conclusions concerning those specific statutes will be made in each paragraph respectively.

7.3 The Banks Act, Fintech companies and cryptocurrencies

[146] The South African Reserve Bank Act (n 11), s 14.

It has been submitted that the arrival of cryptocurrencies has a potential to either completely replace financial services institutions, such as banks, or drastically change the way in which they operate, globally. This is because the capabilities offered by cryptocurrencies potentially exclude the need for banks. The question that remains is whether trading bitcoin constitute "the business of the bank" as defined by the Banks Act? Does a person or institution facilitating the trading of bitcoin require a banking licence as required by the Banks Act?[147] This issue is considered below.

Section 1 of the Banks Act defines "the business of the bank" as:

> "(a) the acceptance of deposits from the general public… as a regular feature of the business in question;
> (b) the soliciting of or advertising for deposits;…"[148]

This definition *prima facie* suggests that any person or institution that, as their main business objective, solicits and accepts deposits from the public will be regarded as conducting the business of the bank. The question is accordingly whether Fintech companies that provide online platforms to trade bitcoin are conducting the business of the bank? Is *Luno*, for example, conducting the business of the bank? If so, is it then a requirement for *Luno*, and other Fintech companies providing similar services, to register as a bank as required by the Banks Act? The writer is of the opinion that Fintech companies do not conduct the business of the bank and therefore would not be required to register as such.

The reasoning behind the above submission is that Fintech companies do not necessarily "accept" or "solicit" deposits. They do not take the public's funds into their possession and/or control. They merely provide a platform for the public to hold their own funds in the bitcoin wallet. As such, the activities of Fintech companies in bitcoin do not meet the definition of "the business of the bank" as set out in the Banks Act.

[147] The South African Reserve Bank Act (n 11), chapter III.
[148] The Banks Act (n 129), s1.

7.4 The Financial Advisory and Intermediary Services Act, [149] Fintech companies and cryptocurrencies

The Financial Advisory and Intermediary Services Act is the main financial services legislation in South African banking law. It regulates the offering and rendering of financial services in and into South Africa.[150] "Financial services" include the act of issuing advice and rendering intermediary services.[151]

The Act defines a financial services provider as:

> "… any person, other than a representative, who as a regular feature of the business of such person -
> a) furnishes advice; or
> b) furnishes advice and renders any intermediary service; or
> c) renders an intermediary service;…"[152]

This definition raises a number of concerns when considering the advent of cryptocurrencies in South Africa. Are people or institutions trading bitcoin or advising others to trade bitcoin, considered financial services providers as defined in the FAIS Act? Do they need then to register as such? This is the question with which this paragraph is concerned.

The first part of the definition of a financial services provider makes mention of a person who furnishes advice. The Act defines "advice" in relation to a "financial product".[153] It is submitted that this does not include nor affect cryptocurrencies. Cryptocurrencies are not financial products – they are merely alternative currencies to the Rand. They are instruments that carry value and are not offered by a single person or institution.

[149] Act 37 of 2002.
[150] *Ibid*, preamble.
[151] *Ibid*, s1 "financial services" and "financial services provider."
[152] *Ibid*, s1 "financial services provider."
[153] *Ibid*, s1 "advice."

The second part of the definition mentions the act of rendering an intermediary service. The Act then goes on to define an intermediary service in relation to a financial product. It defines it as:

> "… any act other than the furnishing of advice, performed by a person for or on behalf of a client or a product supplier, the result of which is that the client may enter into or offer to enter into or enters into any transaction in respect of a financial product with a product supplier, …"[154]

Against this background one may argue that Fintech companies offering platforms to hold and/or trade bitcoin, do indeed offer intermediary services as defined by the Act. Again, however, it is submitted that this argument is incorrect because cryptocurrencies are not financial products, and therefore a person holding or trading them would not have purchased a financial product from any individual person or institution.

The Act provides a list of examples of "financial products"[155] and cryptocurrencies do not fall under any of the items in the list. The exchange of cryptocurrencies for fiat currencies does not amount to "issuing a financial product". It is merely currency exchange. It is worth submitting, however, that Fintech companies offering platforms to trade cryptocurrencies as investment instruments *might* fall within the definition of "offering financial services". Their services are similar to those of investment brokers who offer, and advise on, investment instruments.

7.5 The National Payment Systems Act[156] and blockchain technology

The National Payment System Act suggests that the regulatory framework of payments would conveniently accommodate the use of blockchain when used to effect and record transactions.[157] It defines "payment system" as:

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[154] *Ibid*, s1 "intermediary services".
[155] *Ibid*, s 1 "financial product."
[156] Act 78 of 1998.
[157] Khoza (n 71).

> "…a system that enables payments to be effected or facilitates the circulation of money and includes any instruments and procedures that relate to the system…"[158]

The Act further defines "settlement system" as:

> "…a system for the discharge of payment or settlement obligations or the discharge of payment and settlement obligations between participants in that system…"[159]

The above two definitions suggest that the Act may well accommodate blockchain, and consequently cryptocurrencies. A payment system is said to include "any instruments and procedures that relate to [a] system". It is submitted that the phrase "any instrument" would also include bitcoin. There is no provision in the act that provides for the contrary.

It is further submitted that the definition of "settlement system" accommodates blockchain technology in that the phrase "between participants in that system" suggests a total disregard of middleman financial services institutions when making payments. Merely having the effect of discharging payments between two participants in the system is sufficient – and this is, in fact, the case with blockchain technology.

7.6 Tax and cryptocurrencies

7.6.1 Introduction

Although cryptocurrencies are not legal tender and are not regulated by the Reserve Bank,[160] South Africans are still subject to general tax regulations. It is therefore important to ensure that these regulations are not contravened in dealing with cryptocurrencies.[161]

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[158] The National Payment Systems Act (n 156), s1.
[159] *Ibid*
[160] The South African Reserve Bank (n 109) 9.
[161] Gad *et al* "What are the tax and exchange control implications of bitcoin?" 2017 https://www.ensafrica.com/news/What-are-the-tax-and-exchange-control-implications-of-Bitcoin?Id=2795&STitle=tax%20ENSight# (09/10/2017).

In South Africa, players in the financial market are subject to pay various kinds of taxes. These include income tax, capital gains tax, and value added tax.[162] All these taxes are dealt with differently by different pieces of legislation. For example, income tax is dealt with under the Income Tax Act.[163] When these statutes were promulgated, cryptocurrencies had not come to the fore. Hence there is some confusion regarding the taxation of cryptocurrencies (and whether they should be taxed at all). To determine whether or not they should be taxed and in what manner, one needs first to determine the category within which cryptocurrencies fall. For example, it has been suggested that if one buys and sells bitcoin, they should be regarded as assets; if they are held as an investment they should be subject to capital gains tax; and if they are used to purchase goods and pay for services, they should be regarded as currency, or "foreign currency" and be taxed as such under the Income Tax Act.[164]

7.6.2 Income Tax

Cryptocurrencies are not legal tender in South Africa and therefore the Reserve Bank has no responsibility over them. This makes it unclear whether dealing in cryptocurrencies has tax implications, and if it does, how should they be taxed, in other words, what category of taxable items would they fall under? The Income Tax Act provides for different treatment of different categories of earnings and assets. Some of these categories are mentioned above. To determine whether cryptocurrencies are taxable in South Africa, it is imperative that the relevant tax category first be determined.

On the basis of the dictionary definition of "currency",[165] it is submitted that cryptocurrencies are indeed a specific type of currency. However, for the purposes of tax, they are not local currencies according to the Income Tax Act,

[162] The South African Revenue Services "What kinds of tax do we pay?" 2018 http://www.sars.gov.za/About/SATaxSystem/Pages/What-kinds-of-tax-do-we-pay.aspx (20/01/2018).
[163] Act 58 of 1962.
[164] Gad (n 161).
[165] *The Merriam-Webster Dictionary* defines "currency" as a circulation of something as a medium of exchange. See: https://www.merriam-webster.com/dictionary/currency (10/10/2017).

section 24I. If this is the case then the next question to ask is whether cryptocurrencies can be regarded as foreign currencies for the purposes of income tax; this will determine whether or not cryptocurrencies are subject to tax.

The Income Tax Act defines foreign currency as "any currency other than the currency of the Republic."[166] It is submitted that this is broad enough to render cryptocurrencies "foreign currencies" for the purpose of the Income Tax Act. Section 25D provides for the determination of taxable income in foreign currency. It provides that:

> "… any amount derived by a person during any year of assessment from amounts received by or accrued to, or in respect of expenditure incurred by, that person in any currency other than the currency of the Republic, shall be determined… in any other case, in the currency in which the amounts so received or accrued or the expenditure so incurred is denominated."

This, in short, confirms that income or loses, made in cryptocurrencies is subject to tax in South Africa as income made in foreign currencies. The taxable amount will be determined in the same foreign currency from which the income was made.

Another manner in which one can acquire bitcoin is through mining. This, as alluded above, is the process in which blocks are added onto the blockchain thus confirming bitcoin transactions – that is "adding transaction records onto the bitcoin public ledger".[167] The people and companies that mine receive a certain number of bitcoin for the services they have rendered. Botha, a bitcoin enthusiast, submits as follows:

> "Technically, this is not a mining activity, but a service provided through blockchain and earning a fee or commission for that service. The income earned as a fee or commission may be included in gross income and therefore declared."[168]

[166] Income Tax Act (n 163), s 9G (1).
[167] Dlamini "You're liable for tax on bitcoin gains" 2017 https://www.iol.co.za/personal-finance/youre-liable-for-tax-on-bitcoin-gains-11508366 (14/10/2017).
[168] *Ibid*

The writer agrees with the above opinion. Earnings accruing to a bitcoin miner should be regarded as income for the purposes of tax. The miner would then be subject to similar obligations to those of another taxpayer who is employed or running a business.

7.6.3 Capital Gains Tax

It is submitted that cryptocurrencies can also be subject to tax when held as an investment instrument. The profits thereto, when the cryptocurrency is cashed out for fiat value, would be taxable. The Eighth schedule, part II, paragraph 3 of the Income Tax Act provides that:

> "A person's capital gain for a year of assessment, in respect of the disposal of an asset –
>
> (a) during that year, is equal to the amount by which the proceeds received or accrued in respect of that disposal exceed the base cost of that asset…"

It is submitted that cryptocurrencies, when bought and sold for Rands, are regarded as assets for the purposes of the above provision. Therefore, the profit made from speculating in cryptocurrencies is subject to a 25% tax as provided for in paragraph 10 of the Eighth schedule, part II of the Income Tax Act.

7.6.4 Value Added Tax

Bitcoin enthusiasts, Gad, Smit, McCormack and Roman, submit that where cryptocurrency is bought and sold for cash, it might be subject to VAT.[169] It is submitted that this is unlikely to be the case. This is because VAT is charged on goods and services, and the term "goods" is defined to exclude money, and consequently cryptocurrencies, in the Value Added Tax Act. It is defined as:

> "… corporeal movable things, fixed property and any real right in any such thing or fixed property, but excluding-
>
> (a) money…"[170]

[169] Gad (n 161).
[170] Act 89 of 1991, s 1 "goods"

"Services" is not defined in the Act. However, it is submitted that cryptocurrencies, which is something that can be bought and sold, cannot be regarded as a service. A service, as defined by the *Merriam Webster Dictionary*, is "the work performed by one that serves".[171]

8. Conclusion

Bitcoin has been labelled as "the money of the future" [172] by numerous cryptocurrency researchers and enthusiasts. There has also been an increase in the number of well-established institutions, both governmental and private institutions, considering the use and the creation of their own cryptocurrencies. The Fintech industry is growing rapidly and it promises significant convenience for the future generation.

This is progressive for South Africa's economy; however, it is important also to consider the negative side to cryptocurrencies. For example, the South Korean government plans to ban virtual currency trading after carefully noting the risks associated with it. [173] The Brazilian regulator has officially banned local investment funds from buying cryptocurrencies due to its potential risks. [174] Perhaps it would be in South Africa's best economical interest to consider the decisions made by these countries.

However, whether cryptocurrencies are good for South Africa's economy is a question for a different discipline, namely that of the economic sciences. Therefore, a final conclusion in this regard is not put forward in this paper. However, as far as the law is concerned, the above-noted characteristics of cryptocurrencies contrasted with the current structure of South African banking

[171] The Merriam Webster Online Dictionary https://www.merriamwebster.com/dictionary/service (14/10/2017).
[172] Pagliery *Bitcoin: And the Future of Money* (2014) 222.
[173] Ramirez "Why South Korea is banning all foreigners from trading cryptocurrency" (2018) https://www.forbes.com/sites/elaineramirez/2018/01/23/why-south-korea-is-banning-all-foreigners-from-trading-cryptocurrency/#f97200873451 (27/01/2018).
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law paint a clear picture of the kind of disruptions these virtual currencies may potentially trigger.[175] It is therefore hoped that the South African legislature and regulatory bodies are prepared to deal with the several problematic issues raised in this paper.

[Word Count 10 393]

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