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‘SHOW ME THE MONEY’: A DISCUSSION OF THE CRYPTOCURRENCY MARKET AND ITS POTENTIAL REGULATION IN SOUTH AFRICA

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DATE: **FEBRUARY 2019**

DECLARATION

I, Hanamika Singh, hereby declare that:

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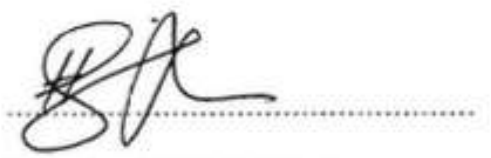

NAME: HANAMIKA SINGH DATE: FEBRUARY 2019

STUDENT NUMBER: 209513211

DEDICATION

This thesis is dedicated to my beloved uncle, Paul Whysall (1966 – 2018).

A Successful Man

By Bessie Anderson Stanley

That man is a success –
who has lived well, laughed often and loved much;
who has gained the respect of intelligent men and the love of children;
who has filled his niche and accomplished his task;
who leaves the world better than he found it;
who has never lacked appreciation of earth's beauty or failed to express it;
who looked for the best in others and gave the best he had.

ACKNOWLEDGEMENT

Thank you to my supervisor, Mrs. C. E. Stevens. This thesis would not have been possible without your guidance and dedication.

Thank you to my family for your unwavering love and support. I am because you are.

To my husband, thank you for putting up with the beaming light and incessant typing at odd hours of the night. Your love, patience and support is forever appreciated.

TABLE OF CONTENTS

ABBREVIATED TERMS

AML	Anti-money laundering
AMLD	Anti-Money Laundering Directive
AI	Augmented intelligence
BEPS	Base Erosion and Profit Shifting
B2B	Business-to-Business
B2G	Business-to-Government
CFT	Combating the Financing of Terrorism
CCP	Committee on Consumer Policy
CPA	Consumer Protection Act
C2C	Consumer-to-Consumer
E-commerce	Electronic commerce
ECTA	Electronic communications and Transactions Act
EDI	Electronic data interchange
E-money	Electronic money
EU	European Union
FBI	Federal Bureau of Investigations
FATF	Financial Action Task Force
FIC	Financial Intelligence Centre
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade and Services
ICT	Information and communication technology
ICOs	Initial Coin Offerings
ITTI	Intelligent Tech and Trade Initiatives
IFWG	Intergovernmental Fintech Working Group
ITO	International Trade Organization
KYC	Know Your Customer
MLEC	Model Law on Electronic Commerce
NCA	National Credit Act

OECD	Organisation for Economic Co-operation and Development
SRO	Self-regulatory organisation
TLAB	Taxation Laws Amendment Bill
BIS	The Bank for International Settlements
The World Bank	The Bank of Reconstruction and Development
FAIS	The Financial Advisory and Intermediary Services
FMA	The Financial Markets Act
SARB	The South African Reserve Bank
SARS	The South African Revenue Service
UN	United Nations
UN/CEFACT	The United Nations Centre for Trade Facilitation and Electronic Business
URVCBA	Uniform Regulation of Virtual-Currency Businesses Act
WEF	World Economic Forum

ABSTRACT

The developments of the internet and electronic communication, have created a platform that enables the trade of goods and service through the internet. This connects consumers and businesses to facilitate safe and efficient transactions. Unremitting electronic advances have also brought to light the inadequacies of the current trading system, which struggles to keep abreast with these new developments. Cryptocurrency is one such new technology creating challenges for trade and legal systems regarding confidentiality, security, legal certainty and predictability. The virtual, decentralized nature of this technology and the absence of a specific legal monitoring entity makes the application of traditional legal frameworks untenable and the enforcement of any new legal framework tenuous. For these reasons, the current regulatory status of decentralized cryptocurrencies, or digital currencies, is perplexing. The cryptocurrency platform offers a solution to developing trade issues as cryptocurrencies transcend borders and are international by design. The anonymity of cryptocurrency systems have the ability to surpass current restrictions and allow for virtually instantaneous cross border transactions thereby making it more attractive than traditional monetary systems. This offers some advantages and disadvantages as this system is not without challenges such as its potential use for criminal activities. As such, there are countries that are well ahead in regulating cryptocurrencies and have legislative and institutional frameworks in place. However, a uniform approach to the regulation of these so-called virtual currencies (which differ from the traditional monetary systems) is needed as these differing approaches by governments in their attempts to nationalise regulation, is of great concern. In particular, South Africa has a well-developed money-lending environment, institutions and legislation and it has plans to develop its current institutional and legal framework to accommodate these advances. This thesis examines the legal nature of cryptocurrency in the international electronic commerce economy and treatment by national governments. This thesis will endeavour to discover whether international harmonisation of initiatives by the major international regulatory organisation can develop a universal guideline to harness the potential of this new technology.

CHAPTER 1

INTRODUCTION AND GENERAL BACKGROUND

1.1. BACKGROUND AND OUTLINE OF THE RESEARCH PROBLEM

With approximately 3.2 billion people having access to, and are using the internet to share a myriad of information, the global electronic economy is at the dawn of the fourth industrial revolution.[1] This flow of digital communication between countries will fundamentally alter the way we produce, consume and communicate with one another.[2] In line with these global shifts, the World Economic Forum (WEF) in its Future of Financial Services Report, identified that the payment industry in particular, is undergoing one such major revolution that has vast implications for consumers and businesses alike.[3] These developments can be attributed to the compelling new alternatives to traditional monetary systems, such as virtual currencies[4], which are radically streamlining trade practices.[5]

[1] The Fourth Industrial Revolution can be described as the advent of "cyber-physical systems" involving entirely new capabilities for people and machines. The Fourth Industrial Revolution represents entirely new ways in which technology becomes embedded within societies. Examples include genome editing, new forms of machine intelligence, breakthrough materials and approaches to governance that rely on cryptographic methods such as the blockchain. *See*: World Economic Forum *Global Information Technology Report: The Networked Readiness Index* (2016), available at *http://reports.weforum.org/global-information-technology-report-2016/1-1-the-networked-readiness-index-2016/,* accessed on 17 August 2018

[2] World Economic Forum *Global Information Technology Report: The Networked Readiness Index* (2016), available at *http://reports.weforum.org/global-information-technology-report-2016/1-1-the-networked-readiness-index-2016/,* accessed on 17 August 2018

[3] J de Mink 'The rise of Bitcoin and other cryptocurrencies' *De Rebus* 1 December 2017, available at *http://www.derebus.org.za/rise-bitcoin-cryptocurrencies/,* accessed on 11 April 2018.

[4] In an opinion of the European Central Bank, the Banking Authority defined virtual currency (cryptocurrency) as 'a digital representation of value that is neither issued by a central bank or a public authority, nor necessarily attached to a fiat currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored or traded electronically', available at *https://eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf,* accessed on 11 July 2018.

[5] Ibid 3.

The concept of virtual or digital currency was born out of the ideology of Liberalists[6] and the 'Cypherpunk' movement in the 1990s.[7] These individuals envisaged the idea of a system that was devoid from the control of governments and centralised authorities.[8] They did not believe that government and financial institutions could be trusted to protect their privacy.[9] Therefore, they advocated for the protection of privacy and freedom of the general public through the use of cryptography encryption code[10] to develop an anonymous digital transaction system that exists outside of such controls known as cryptocurrencies[11].[12] This led to the materialisation of numerous virtual currency systems such as DigiCash, Hashcash and B-money.[13] On their own, these early attempts proved unsuccessful for various reasons.[14] Therefore, the concept of cryptocurrency remained largely dormant until Satoshi Nakamoto resurrected it in 2008.

[6] "Individuals that have liberalism ideals which is a political doctrine that takes protecting and enhancing the freedom of the individual to be the central problem of politics. Liberals typically believe that government is necessary to protect individuals from being harmed by others, but they also recognize that government itself can pose a threat to liberty."

[7] The portmanteau "cypherpunk" invented by Jude Milhon, is the combination of the word cypher and "cyberpunk", it itself a combination of the words cybernetic and punk in reference to the technologies of dystopic science fiction novels. The Cypherpunk movement is a group of activists formed in the 1990s. *See*: T Rid 'The cypherpunk revolution: How the tech vanguard turned public-key cryptography into one of the most potent political ideas of the 21st century' (2016) available at *http://projects.csmonitor.com/cypherpunk,* accessed on 17 August 2018.

[8] T Rid 'The cypherpunk revolution: How the tech vanguard turned public-key cryptography into one of the most potent political ideas of the 21st century' (2016) available at *http://projects.csmonitor.com/cypherpunk,* accessed on 17 August 2018.

[9] Ibid.

[10] An encryption is the process of converting information or data into a code, especially to prevent unauthorized access. 'Encryption' available at *https://en.oxforddictionaries.com/definition/encryption*, accessed 3 February 2018.

[11] The term "cryptocurrency" originally was used by the Bitcoin system introduced in 2009. Cryptocurrency is a type of digital currency whose operations are based on methods of cryptography. The word "crypto" comes from Greek, meaning "hidden" or "private." Cryptocurrency, then, means money that is made hidden and private – and therefore secure – by means of encryption, or coding. *See*: Ibid 440.

[12] Ibid 8.

[13] A. Phillip, J S K Chan, S Peiris, A new look at Cryptocurrencies, School of Mathematics and Statistics, (2017) The University of Sydney, available at *www.elsevier.com/locate/ecolet*, accessed on 20 March 2018. These systems will be discussed further in Chapter 2.

[14] "These reasons are discussed briefly further in Chapter 2. These former systems added great value to the current blockchain and cryptocurrency systems in existence today. *See*: A. Phillip, J S K Chan, S Peiris, A new look at Cryptocurrencies, School of Mathematics and Statistics, (2017) The University of Sydney, available at *www.elsevier.com/locate/ecolet*, accessed on 20 March 2018.

Nakamoto identified a need for an electronic payment system that allows users to transact directly with one another without the need for a facilitating third party such as a bank.[15] In response to this perceived need, he developed the current blockchain[16] technology system and the infamous Bitcoin.[17] This peer-to-peer interaction makes it possible to directly trade with one another and individually hold digital currency.[18] This shift in personal financial control, has triggered exponential growth in the use of cryptocurrencies which are now attracting considerable worldwide attention.[19] The blockchain system has been described by WEF[20] as "a 21st century record-keeping mechanism that has evolved from carving on the walls to digital ledgers" as it records and maintains a record of every transaction on the system.[21] This blockchain technology system has arguably unprecedented potential applications for many industries, from the ability to transact globally within minutes to creating transparent markets.[22] However, the innovative commercial and social possibilities of cryptocurrency also pose particular challenges that will need to be addressed by developing regulation.[23]

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[15] S Nakamoto 'Bitcoin: A Peer-to-Peer Electronic Cash System' (2008) Bitcoin Organisation. p. 1 - 8, available at *https://bitcoin.org/bitcoin.pdf*, accessed on 2 April 2018.

[16] The blockchain is the algorithm that created the cryptocurrency, Bitcoin. An algorithm is a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. Algorithm' available at *https://en.oxforddictionaries.com/definition/algorithm*, accessed on 2 April 2018.

[17] Bitcoin for example is the most popular and arguably controversial blockchain technology that has capitalised a multibillion-dollar global market of anonymous transactions without any governmental control, thereby challenging the traditional systems of electronic commerce. *See*: M. Crosby, Nachiappan, P Pattanayak, S Verma, V Kalyanaraman 'BlockChain Technology: Beyond Bitcoin' (2015) Sutardja Center for Entrepreneurship & Technology Technical, available at *http://scet.berkeley.edu/wp-content/uploads/BlockchainPaper.pdf* accessed on 2 April 2018 *and* Ibid 15.

[18] G M Caporalea, L Gil-Alanac and A Plastund 'Persistence in the cryptocurrency market' (2018) *Research in International Business and Finance*, available at www.elsevier.com/locate/ribaf, accessed on 20 March 2018.

[19] Ibid.

[20] This organization will be discussed further below under Chapter 3.

[21] World Economic Forum 'Finance and Blockchains' (2018) available at *https://www.weforum.org/agenda/2018/08/finance-and-blockchains*, accessed on 10 June 2018.

[22] Parliament office for Scientific and Technology Assessment 'Understanding Blockchains' (2018) Science and Technology Briefings, available at *http://www.senat.fr/rap/r17-584/r17-584-syn-en.pdf*, accessed on 10 December 2018.

[23] U W Chohan 'Assessing the Differences in Bitcoin & Other Cryptocurrency Legality across National Jurisdictions' (2017) School of Business and Economics, University of South Wales, Canberra, available at *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3042248*, accessed on 2 March 2018. The developing regulation will be discussed further in Chapter 3 and 4.

The novel and ever-evolving nature of these technologies cause trepidation for monetary and regulatory bodies across the globe.[24] Hence, most countries have failed to implement adequate legal regulation resulting in inadequate legal guidance for those engaging in cryptocurrency transactions.[25] In this regard, the lack of regulation brings about unsupervised transactions outside of the established legal environment.[26] This leaves users with no recourse for the insurance of performance or fulfilment of obligations. In addition, the digital platform is open to digital attacks and online fraud that can have disastrous effects on the value of these currencies.[27] As a result, this largely unregulated sphere creates the possibility of significant consumer risk with disastrous effects. This thesis submits that this calls for international intervention and the development of a uniform system to monitor and regulate the use of virtual currency.

It is notable that the right to regulate virtual currency lies within a government's ambit as the national lawmaker however, due to its decentralized nature, unrestricted jurisdictional span and transactional anonymity, it is difficult to enforce any regulation on cryptocurrency systems.[28] This thesis will further explore the potential and risks associated with the use of these new payment mechanisms in international markets. The research, will establish that despite the numerous advantages such as flexibility, unrestricted operational reach and control, the use of these virtual currencies can have catastrophic effects resulting in heightened consumer risk[29], money laundering and the finance of terrorist activities. This thesis therefore submits that there is a prevalent need

[24] U W Chohan 'Assessing the Differences in Bitcoin & Other Cryptocurrency Legality across National Jurisdictions' (2017) School of Business and Economics, University of South Wales, Canberra, available at *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3042248*, accessed on 2 March 2018.
[25] K U Leuven 'The Regulation of Cryto Currency – A Global Overview' (2015) iLINC ICT Law Incubators Network. iLINC Legal and Technology Briefs, available at http://www.ilincnetwork.eu/law-incubators/ accessed on 2 March 2018.
[26] D Lomovtsev 'Comparative Analysis of Legal Regulation of Bitcoin in various Countries' (2015) Scholar School of Comparative Law Research, available at *https://cyberleninka.ru/article/v/comparative-analysis-of-legal-regulation-of-bitcoin-in-various-countries*, accessed on 2 March 2018.
[27] Ibid 26.
[28] N Sharma and Dr. R Vyas, September 'Virtual currencies: A hazard or a boon? A Perspective from the Digital finance ecosystem and associated Legal issues' (2017) *National Journal of Multidisciplinary Research and Development*, Vol 2; Issue 3; p. 324-330, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3077829, accessed on 2 March 2018.
[29] For example, double spending by users where a user creates fake transactions to spend a cryptocurrency more than once. The other transacting user does not having any enforcement rights against the defaulting user.

for regulation. It will endeavour to identify whether such regulation will be preferable at an international or domestic level. It will accomplish this through a discussion on the current regulatory measures adopted by developed and lesser developed countries and identify where cryptocurrencies fit in the international electronic commerce (e-commerce)[30] platform. It will also look specifically at the treatment of cryptocurrency in the context of South Africa.

Moreover, it will be illustrated that the mammoth task of developing an international regulatory regime for cryptocurrencies, must take cognizance of the fact that cumbersome regulation may catalyst innovation to circumvent these controls and foster the development of new cryptocurrencies which will reduce the demand for established cryptocurrencies and harm the international economy.[31] In order to ensure its stability, regulators must therefore balance the protection of innovation while encouraging regulations across different legal systems.[32]

1.2. PRELIMINARY LITERATURE STUDY

Previously seen as a fictional online currency, cryptocurrencies have now become a household phenomenon taking e-commerce markets by storm. The expansion of cryptocurrency propositions solutions to credit card fraud, delayed payment mechanisms, and exchange control restrictions that are stunting the growth of the global market.[33] In the same way, American economist, Susan Athey argues that the introduction of cryptocurrencies into the market eliminates the risks and challenges associated with

[30] In particular, ecommerce refers to the domestic and cross-border sale of goods and services on the Internet through computer networks and other electronic devices. See: United Nations Conference On Trade And Development 'Globalization For Development: The International Trade Perspective' (2008), United Nations available at *http://unctad.org/en/docs/ditc20071_en.pdf,* accessed on 12 June 2018.
[31] D Masie 'Why it would be in everybody's interests to regulate cryptocurrencies' *Fin24tech* 15 February 2018 available at *https://www.fin24.com/Tech/Opinion/why-it-would-be-in-everybodys-interests-to-regulate-cryptocurrencies-20180214,* accessed on 2 April 2018.
[32] Ibid.
[33] S Athey '5 ways digital currencies will change the world' (2015) The World Economic Forum available at *https://www.weforum.org/agenda/2015/01/5-ways-digital-currencies-will-change-the-world/,* accessed 1 May 2018.

traditional payment systems[34] thereby restoring reliance in online trade.[35] In addition, the ability to send payments directly between parties makes the trading process more proficient.[36] The use of these digital currencies can also assist small businesses, in developing countries such as South Africa, to now participate in global trade markets which they were previously unable to due to lack of funds or access to financial intermediaries.[37] Cryptocurrencies also have immense potential use in the global marketplace to provide solutions to various UN sustainability goals.[38]

South African attorney, Jason de Mink, explains that cryptocurrency is a free open-source decentralised software vetoing the association with any laws, institutions or governments which therefore allows users full control of their assets and there is no charge involved in joining the platform.[39] As a result, inflationary effects related to using legal tender linked to governments, theoretically do not have any effects on such virtual currencies nor do the rules and regulations[40] imposed on cross border trade and international transactions.[41] In this regard, de Mink further explains that these currencies are not subject to exchange rate fluctuations, transaction fees and policies which slow down the

[34] There is a lack of convenience in traditional payment systems. They require the consumer to either send paper checks by mail or require them to physically come over and sign papers before performing a transaction. There is a lack of security as confidential data is maintained on a paper, which is not encrypted, that may be read by anyone. There is a lack of reach of banking branches to remote lesser developed areas. Businesses need faster transactions which not possible without the bank having branches near all of the company offices. There is also a lack of eligibility for some users because not all potential consumers have a bank account. *See*: Shodhganga INFLIBNET Centre 'Role of Computerization of Banks' Chapter 3. p. 68-69 available at *http://shodhganga.inflibnet.ac.in/bitstream/10603/27812/9/09_chapter%203.pdf*, accessed on 9 March 2018.
[35] Ibid 33.
[36] Ibid.
[37] Ibid.
[38] "For example: Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, Goal 10. Reduce inequality within and among countries, Goal 12. Ensure sustainable consumption and production patterns, Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. United Nations 'Transforming our world: the 2030 Agenda for Sustainable Development'' (2015), available at: *https://sustainabledevelopment.un.org/post2015/transformingourworld*, accessed on 10 December 2018. This will be discussed further in Chapter 4."
[39] Ibid 3.
[40] Examples of these regulations in the South African context will be discussed in Chapter 4.
[41] E Prasad 'Central Banking in a Digital Age: Stock-Taking and Preliminary Thoughts' (2018) Hutchins Center on Fiscal & monetary Policy at Brookings, available at: *https://www.brookings.edu/wp-content/uploads/2018/04/es_20180416_digitalcurrencies.pdf*, accessed on 18 July 2018.

transaction process.[42] Senior Professor of Trade Policy at Cornell University, Eswar Prasad, highlights that are notable prospective advantages in converting from physical to digital currency for central banks.[43] He suggests that this can result in easing of some the constraints on traditional monetary policy systems.[44]

Deputy Director of the IMF's Monetary and Capital Markets Department, Dong He, attributes the creation of these cryptocurrencies to the scepticism and the lack of trust surrounding central banks' issuance of currency stemming from the global financial crisis and the bailouts of major financial institutions.[45] Accordingly, cryptocurrencies challenge state-supported currencies and the current financial system with the promise of a new transparent decentralised monetary system.[46] Professor of Economics at the University of Stirling, Sheila Dow, argues that there is much speculation around cryptocurrencies regarding whether they herald a new high tech decentralised payment era or they are a fad that will soon fade.[47] Regardless of these speculative sentiments, the proliferation of cryptocurrencies in the market are continuing to emerge consistently to date. Accordingly, the extensive interest in these currencies evidence that there is a need for a more secure, transparent and swift payment system.[48]

Innovation invariably creates both threats and opportunities for users.[49] When compared to traditional payment systems, De Mink, highlights that greater control, enhanced speed and unrestricted operational reach, are some of the beneficial offerings associated with the use of cryptocurrency as a payment mechanism.[50] However, as mentioned above, the lack of regulatory control leaves the cryptocurrencies platform open to illegal activity.

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[42] Ibid 3.
[43] Ibid 41.
[44] Ibid.
[45] D He 'Monetary Policy in the digital age Crypto assets may one day reduce demand for central bank money' (2018) International Monetary Fund, available at: *https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf*, accessed on 21 September 2018.
[46] Ibid.
[47] S Dow 'What's the Future of Cryptocurrencies' *Eyewitness News* 15 August 2018, available at *https://ewn.co.za/2018/08/16/what-s-the-future-of-cryptocurrencies*, 10 August 2018.
[48] Ibid.
[49] Bank for International Settlements 'A welcome address and opening remarks by Francois Groepe, Deputy Governor of the South African Reserve Bank, at the Innovation and Cybersecurity Conference' (2018) available at *https://www.bis.org/review/r180829e.pdf*, accessed on 7 November 2018.
[50] Ibid 3.

In conjunction, de Mink also identifies that by operating without authority, the use of cryptocurrencies can lead to various other issues, including the circumvention of exchange control regulations and potentially the diminishing of demand for local currencies.[51] Academics, Guo and Chow identified six potential challenges virtual currency systems face that threaten their use namely, the threat of security, danger of a system collapse, impacts of real-world monetary systems, money laundering, tax evasion, online criminal activity and value fluctuation.[52] To avoid such issues, the efficiency gains in having decentralized payment systems need to be balanced against these potential technological vulnerabilities to ensure its survival.[53]

Dong He reassures financial institutions that cryptocurrencies are, at present, too volatile to pose any substantial risk to fiat currencies.[54] However, to fend off potential competition, central banks need to bring fiat currencies up to speed with the digital age.[55] Accordingly, this thesis propositions that fiat currencies must be adapted in line with developing technologies in order to meet evolving monetary demands. Interestingly, de Mink argues that attempts to regulate cryptocurrency exchanges should be focused around consumer protection and aiding growth and innovation in e-commerce.[56] This research agrees with these submissions and suggests that regulatory practices should be aligned to enhance the use and development of cryptocurrency markets. On the same note, an Impact Assessment study conducted by the European Parliament, also reiterates the need for so-called “gatekeepers” whose main task is to manage the control of users' identities.[57]

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[51] Ibid 3.

[52] J Guo and A Chow ‘Virtual money systems: a phenomenal analysis’ (2008) Paper presented at the 10th IEEE Conference, available at: *https://www.researchgate.net/publication/221542496_Virtual_Money_Systems_A_Phenomenal_Analysis*, accessed on 12 June 2018.

[53] Ibid 41.

[54] Fiat money is currency that a government has declared to be legal tender, but it is not backed by a physical commodity. The value of fiat money is derived from the relationship between supply and demand rather than the value of the material from which the money is made. *See*: Chen ‘Fiat Money’ Investopia (2019) available at *https://www.investopedia.com/terms/f/fiatmoney.asp*, accessed on 14 February 2019. *See also*: Ibid 45.

[55] Ibid 45.

[56] Ibid 3.

[57] Prof. Dr. R Houben & A Snyers ‘Cryptocurrencies and blockchain: Legal context and implications for financial crime, money laundering and tax evasion’ (2018) Policy Department for Economic, Scientific and Quality of Life Policies, Directorate-General for Internal Policies, European Parliament, available at *http://www.europarl.europa.eu/cmsdata/150761/TAX3%20Study%20on%20cryptocurrencies%20and%20blockchain.pdf*, accessed on 9 March 2018.

In its proposed fifth revision of the Anti-Money Laundering Directive (AMLD), the European Parliament suggests that there must be an inclusion of virtual currency exchanges[58] and custodian wallet providers[59] in the scope of the AMLD.[60] As such, cryptocurrency exchange platforms are required to register and/or obtain licenses in order to trade.[61] Accordingly, to eradicate anonymity issues they will be required to report suspicious transactions to the competent financial intelligence units apply due diligence controls when exchanging virtual for fiat currencies.[62] The United States of America's (USA) Federal Bureau of Investigation notes that virtual currency systems are not inherently illicit and are used by legitimate consumers every day to conduct legal transactions as they allow users to move funds quickly and efficiently across great distances without being tied to one country's currency or worrying about international conversions.[63]

However, it highlights that like nearly any financial product these systems have the potential to be exploited by can be exploited by lawbreakers to further their illegal activities, thus intervention by law enforcement is of important. [64] It is cautioned that an inconsistent regulatory configuration will debilitate the global cooperation necessary to combat cryptocurrency-related crime.[65]

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[58] Providers engaged primarily and professionally in exchange services between virtual currencies and fiat currencies. *See*: Ibid.
[59] Wallet providers offering custodian services of credentials necessary to access virtual currencies. *See*: Ibid 57.
[60] European Commission 'Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC' (2016), European Parliament. COM/2016/0450, available at *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016PC0450&qid=1523358551244&from=EN,* accessed on 13 December 2018.
[61] Ibid 57.
[62] Ibid.
[63] B Nigh & C A Pelker 'Virtual currency: Investigative challenges and opportunities' (2015) Federal Bureau of Investigation, available at *https://leb.fbi.gov/articles/featured-articles/virtual-currency-investigative-challenges-and-opportunities,* accessed 1 May 2018.
[64] Ibid.
[65] A S M Irwin and C Dawson 'Following the cyber money trail: global challenges when investigating ransomware attacks and how regulation can help' (2019) *Journal of Money Laundering Control*, available at https://www.emeraldinsight.com/doi/pdfplus/10.1108/JMLC-08-2017-0041, accessed on 14 February 2019.

1.3. RESEARCH QUESTIONS AND OBJECTIVES

New technologies create challenges for legal systems regarding confidentiality, security, legal certainty and predictability. The virtual and decentralized nature of this technology and the absence of a specific legal monitoring entity makes the application of traditional legal frameworks untenable and the enforcement of any new legal framework tenuous. For these two reasons, the current regulatory status of decentralized cryptocurrencies, or digital currencies, is perplexing. This thesis examines the legal nature of cryptocurrency in the international electronic commerce economy and treatment by national governments. This thesis will endeavour to discover whether international harmonisation of initiatives by the major international regulatory organisation can develop a universal guideline to harness the potential of this new technology.

Accordingly, this paper will answer the following research questions:-

1. What is cryptocurrency?
2. Where does it fit in to existing international trade framework?
3. To what extent does the use of cryptocurrency affect international e-commerce?
4. To what extent, if any, can the use of cryptocurrency be regulated?
5. To what extent is the current South African legislation comprehensive to regulate the use of cryptocurrency?

The objective is to explore whether regulation of cryptocurrency in South African and other similar developing countries is possible and if so, to what extent. A discussion into the treatment of cryptocurrency in particular international jurisdictions will be explored to determine international legal trends in an attempt to identify the plausible approach for the South African legal framework. It will be concluded that future developments in the area of cryptocurrency will require a more coordinated and internationally integrated regulatory framework.[66] The challenge for each jurisdiction is to maintain an equilibrium

[66] Ibid 3.

between the introduction of comprehensive, adaptable and robust regulatory systems and protocols while supporting technological innovation and growth.[67]

1.4. RESEARCH METHODOLOGY

The research questions will be answered through a desktop study of various primary and secondary resources. The data will be collected from primary sources such as The United Nations' Model law on Electronic Commerce; The Financial Action Task Force's Guidance for a risk-based approach to virtual currencies; Income Tax Act and the Electronic Communications and Transactions Act.

The secondary sources used will include books, academic journals, magazines and newspapers articles accessed from internet sources and from the library of the University of Kwa-Zulu Natal.

1.5. CHAPTER BREAKDOWN

Chapter 1 introduces the topic, research questions, research methodology and brief literature review will introduce the topic of blockchain technology and cryptocurrency. A brief background on what blockchain technology is and the development of cryptocurrency will be provided.

Chapter 2 will explore in greater detail the interrelation between cryptocurrency and electronic commercial trade. The current regulatory framework of international organizations will be explored to determine where cryptocurrency fits in to determine its aptitude in international trade. The need for deeper observation and regulation in this sphere will also be presented to ensure its viability as a financial commodity.

Chapter 3 will consider and compare the various regulatory practices of developed and developing countries focusing predominately on the United States of America, European Union, Germany, India, Dubai and Venezuela. The aim of this chapter will be to outline the best practices followed by countries in an attempt to determine the possibility of the regulation of cryptocurrency and institution of a generalized regulatory framework.

[67] Ibid.

Chapter 4 will provide an in-depth study into the virtual currency market in South Africa. The treatment of cryptocurrencies by governmental organization's such as the South African Reserve Bank, Financial Intelligence Centre and South African Revenue Services will be explored. In particular, the scope of consumer protection, tax evasion and regulatory policies will be outlined together with other domestic directives.

Chapter 5 will conclude the discussion on cryptocurrency providing recommendations on how cryptocurrency can be used to enhance the efficiency of international trade and the requirements for regulation to ensure price stability, reliability and predictability in line with international standards. This chapter will determine based on the research conducted whether the regulation of cryptocurrency is possible and to what extent.

1.6. CONCLUSION

With the cryptocurrency market reaching a market capitalisation of $1trillion, the necessity to regulate its use is becoming increasingly prevalent.[68] There is often uncertainty as to how validity, enforceability and admissibility of data messages and transactions are treated by existing laws.[69] This legal uncertainty is an obstacle to the adoption of cryptocurrencies.[70] In this regard, the virtual and decentralized nature of this technology makes the application of traditional legal frameworks untenable.[71] The current regulatory status of decentralized cryptocurrencies, or digital currencies, is accordingly enigmatic.[72] This thesis aims to determine to what extent have governments addressed the risks postured by cryptocurrencies, if any. It also aims to determine how such regulations are being implemented. The thesis focusses on the regulatory approaches of certain developed and developing countries in an attempt to determine whether an international

[68] Ibid 31.
[69] M Crosby, Nachiappan, P Pattanayak, S Verma, V Kalyanaraman 'BlockChain Technology: Beyond Bitcoin' (2015) Sutardja Center for Entrepreneurship & Technology Technical, available at *http://scet.berkeley.edu/wp-content/uploads/BlockchainPaper.pdf* accessed on 2 April 2018.
[70] United Nations *Laws and Contracts in an E-Commerce Environment United Nations Conference on Trade and Development Information Economy Report* (2006) available at *https://unctad.org/en/Docs/sdteecb20061ch8_en.pdf*, accessed on 6 July 2018.
[71] S D Hughes 'Cryptocurrency Regulations and Enforcement in the U.S.' (2017) *Western State University Law Review Association*. Rev. 1, available at, http://www.scotthugheslaw.com/documents/CRYPTOCURRENCY-REGULATIONS-AND-ENFORCEMENT-IN-THE-US-2.pdf, accessed on 5 July 2018.
[72] Ibid.

regulatory initiative would be more feasible to attend to such a global phenomenon. This research will highlight certain global responses to cryptocurrency regulation attempt to encourage the use of cryptocurrency and promote innovation. It will further be identified that with countries adopting different approaches, there is little or no consensus on the form of regulation required. The next chapter will begin by providing a brief background of the cryptocurrency system. It will then outline how cryptocurrencies work and their potential use in the international e-commerce market. It will also outlines the related risks that may be experienced.

CHAPTER 2

CRYPTOCURRENCY AND THE CURRENT ELECTRONIC COMMERCE SYSTEMS IN INTERNATIONAL TRADE

2.1 INTRODUCTION

The 21st century has ushered in a new economy with unparalleled global economic transformations.[73] This new era can be attributed to the advancement and sharing of information and communication technologies (ICTs).[74] ICT-enabled mechanisms have engineered an electronic marketplace for the sale of goods and services which have revolutionised the way in which companies and individuals do business, domestically and internationally.[75] As such, the rapid developments in ICTs have led to a so-called "virtually borderless global economy" that allows the delivery of any goods and services that can be digitized and communicated electronically.[76] Linked to these advancements, a number of international organisations such as the World Trade Organisation (WTO), International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), United Nations (UN) and The Bank of Reconstruction and Development (The World Bank) were developed, to monitor and enhance trade flows as smoothly, predictably and as freely as possible.[77] To enable the development of new harmonised systems, these bodies have established legal policies such as, inter alia, the Model Law

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[73] S Moodley 'The Status of B2B E-Commerce in the South African Manufacturing Sector: Evolutionary or Revolutionary?' (2002) University of the Witwatersrand, available at *http://wiredspace.wits.ac.za/bitstream/handle/10539/19827/SAJIC-Issue-3-2002-Moodley.pdf?sequence=1&isAllowed=y*, accessed on 12 June 2018.

[74] Ibid.

[75] C J Nwabueze 'Reflections on legal uncertainties for e-commerce transactions in Cameroon' (2017) *The African Journal of Information and Communication* (or AJIC), 20, p. 171-180, available at http://wiredspace.wits.ac.za/bitstream/handle/10539/23499/AJIC-Issue-20-2017-Nwabueze.pdf?sequence=3&isAllowed=y, accessed on 5 July 2018.

[76] International Bar Association *A Handbook on the GATS Agreement* 2002 available at *https://www.ibanet.org/Document/Default.aspx?DocumentUid=4F39B8D5-2110-4A8A-BDAF-7CB1D7083236*, accessed on 12 June 2018.

[77] E S Tefera 'Ethiopia's Accession To The World Trade Organisation: Implications On Market Access And Balance Of Payment Disequilibrium' (2016) University of the Witwatersrand, available at *http://wiredspace.wits.ac.za/bitstream/handle/10539/22212/Final%20Draft%20Thesis.pdf?sequence=1&isAllowed=y*, accessed on 11 July 2018.

on Electronic Commerce,[78] the General Agreement on Trade and Services (GATS)[79] and the Consumer Protection in E-commerce Guidelines[80] to monitor and foster international trade. In this regard, together with the developments of the internet and electronic communication, the trading of goods and service through the electronic platform has become one of the most noteworthy advances shaping international trade. The electronic commerce (e-commerce) market now allows for an unparalleled low-cost and highly resourceful means to reach potential customers across the globe.[81] These technological advances integrate marketplaces by decreasing the cost of communication and increasing efficiency.[82] For example, e-commerce online allows businesses to connect virtually, at low cost, to a global consumer-base beyond of national borders thereby enhancing the global marketplace.[83] In response, payment mechanisms have evolved with credit cards, electronic fund transfers and internet banking facilities now present just about anywhere in the world through organisations such as Visa, Mastercard and Paypal.[84]

Since its introduction, more than 10 years ago and an overall peak of over $800 billion in January 2018, Bitcoin has created a major global cryptocurrency market of about 2,100 competitors.[85] As such, cryptocurrencies now fuel debates, with supporters arguing that

[78] UNCITRAL Model Law on Electronic Commerce (1996) with additional article 5 bis as adopted in 1998 available at *http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html,* accessed on 17 October 2018.
[79] The GATS was inspired by essentially the same objectives as its counterpart in merchandise trade, the General Agreement on Tariffs and Trade (GATT): creating a credible and reliable system of international trade rules; ensuring fair and equitable treatment of all participants (principle of non-discrimination); stimulating economic activity through guaranteed policy bindings; and promoting trade and development through progressive liberalization. *See*: The World Trade Organization 'General Agreement on Trade in Services' available at: https://www.wto.org/english/tratop_e/serv_e/gatsintr_e.htm accessed on 13 August 2018."
[80] OECD *Developments in Steelmaking Capacity of Non-OECD Economies* OECD Publishing (2010) available at *https://www.oecd-ilibrary.org/industry-and-services/developments-in-steelmaking-capacity-of-non-oecd-economies-2010_steel_non-oecd-2010-en-fr,* accessed on 9 March 2018.
[81] Ibid 76.
[82] Ibid 2.
[83] Ibid.
[84] A Kalender & Ö. Gürbüz 'On the potential effects of cryptocurrency on anti-corruption' (2018) International Bar Association, available at *https://www.ibanet.org/Article/NewDetail.aspx?ArticleUid=A9B2DAD2-BAEC-40DA-9CD1-6CA9165A9C42,* accessed on 10 July 2018.
[85] Congressional Research Service *International Approaches to Digital Currencies Report* (2018) available at *https://crsreports.congress.gov/product/pdf/R/R45440,* accessed on 10 January 2019.

the development and expanse of cryptocurrencies has the potential to revolutionise the financial and banking industries by increasing payment efficiency, reducing transaction costs, increasing participation in the financial structure, and facilitation of transactions.[86] While critics highlight that the value of cryptocurrencies is "highly volatile", and the unregulated nature of its exchanges create concerns for consumer protection and anti-money laundering efforts. In addition, the use of cryptocurrencies require significant energy resources for verification computations, which cause concern for the environment.[87]

The aim of this chapter is to provide a brief background of blockchain/cryptographic system. It will then explore what cryptocurrency is and how it operates. The thesis will further identify the risks and limitations of cryptocurrency. Thereafter, it will establish where cryptocurrency fits into the international trading sphere and to what extent, if any, does its use affect e-commerce. It will be outlined that blockchain technology and the cryptocurrency framework has immense potential for international trade whether directly used or developed in accordance with renewed international rules and regulations.

2.2 BLOCKCHAIN TECHNOLOGY AND CRYPTOCURRENCY[88]

2.2.1 BRIEF BACKGROUND ON THE BLOCKCHAIN/CRYPTOGRAPHIC SYSTEM

The first attempt at creating a virtual cryptographic currency was pioneered by David Chaum.[89] He created DigiCash, what by some is described as an early example of electronic payment cryptocurrency, using the latest advancements in public and private key cryptography in 1990.[90] He is known to have invented 'blind signatures' which allow the authentication of transactions by allowing users to sign off without revealing their identity. The ability to transact without being tracked by banks and governments were the

[86] Ibid.
[87] Ibid.
[88] Note: the terms 'Bitcoin' and 'cryptocurrency' are used interchangeably in this section.
[89] A Greenberg 'Nakamoto's Neighbor: My Hunt For Bitcoin's Creator Led To A Paralyzed Crypto Genius' *Forbes* 25 March 2014, available at *https://www.forbes.com/sites/andygreenberg/2014/03/25/satoshi-nakamotos-neighbor-the-bitcoin-ghostwriter-who-wasnt/#5ea4bf654a37*, accessed on 6 April 2018.
[90] Ibid.

cornerstone of the DigiCash system.[91] The issue with the DigiCash model was that it was housed centrally by Chaum's own company and was intrinsically linked to the existence of the company.[92] This centralization of having one sole validator was a burden on Digicash to validate all transactions which became overwhelming and led to its bankruptcy in 1998.[93] The use of blind signatures can now be found in the current blockchain system as a fundamental component allowing for the anonymity of transactions.[94]

Thereafter, Adam Back invented Hascash to eliminate email spam by requiring the resolution of a "cryptographic puzzle which acted as a proof of work".[95] This limited the number of emails by requiring a Hashcash stamp which verified that the email sent is valid. [96] This system made it computationally expensive to send out spam emails thereby disincentivizing spammers.[97] His paper and proof of work forms the basis for many cryptocurrencies today.[98] Another former attempt to develop a functional cryptography system was attempted by Wei Dai through a system called B-money.[99] B-money was an attempt to create an anonymous, distributed electronic cash system.[100] In the B-money system, digital pseudonyms would be used in order to transfer currency through a decentralized network without the use of a third party.[101] However, it ultimately did not succeed. Nonetheless, it is well known for its attempt at an anonymous, private, and

[91] A Narayanan and J Clark 'Bitcoin's Academic Pedigree' (2017) *Communications Of The Acm*, Vol. 60, No. 12, p. 38 – 45, available at https://users.encs.concordia.ca/~clark/papers/2017_cacm.pdf, accessed on 7 June 2018.
[92] Ibid.
[93] Ibid.
[94] Ibid 15.
[95] B Warf *The SAGE Encyclopedia of the Internet* 2018 available at *https://play.google.com/store/books/details?id=ED9XDwAAQBAJ&rdid=book-ED9XDwAAQBAJ&rdot=1&source=gbs_atb&pcampaignid=books_booksearch_atb*, accessed on 10 January 2019.
[96] Hashcash available at: *http://www.hashcash.org/*, accessed on 7 June 2018.
[97] Ibid 95.
[98] Ibid 22.
[99] B-money was an early proposal created by Wei Dai for an "anonymous, distributed electronic cash system". *See*: Ibid 15.
[100] N Reiff 'Were There Cryptocurrencies Before Bitcoin?' (2018) Investopia, available at *https://www.investopedia.com/tech/were-there-cryptocurrencies-bitcoin/*, accessed 3 June 2018.
[101] Ibid.

secure electronic cash system.[102] These ideals now form part of the current cryptography systems.

Building on the foundations laid by his successors, in October 2008, Satoshi Nakamoto released the Bitcoin whitepaper, which outlined, for the first time, an anonymous, decentralized deflationary[103] cryptocurrency.[104] This system is unique as it removes the need for "trusted third parties", by having confidence in the distributed network and immutable "digital ledger" thereby challenging current institutional financial systems and their ability to effectively satisfy the evolving needs of consumers in the 21st century. To understand, the basic elements of Bitcoin, an explanation of cryptocurrency and its operations is will be provided below.

2.2.2 EXPLANATION OF CRYPTOCURRENCY AND OPERATIONS

Professor of History and International Affairs at Princeton University and IMF historian, Harold James, equates bitcoin to being the "21st century's version of gold" in that it is generated or mined by consorted efforts made by users.[105] He analogises that, similar to the mining of physical gold, that requires human effort for extraction from difficult places, so too does bitcoin requires extensive efforts from its users through the use of super computers to solve complex mathematical algorithms.[106] He suggests that this marks a "transformational shift in the perception of value".[107] In this regard, a study of some international economies show that coins and notes no longer dominate the monetary domain.[108] For example, Sweden's economy suggests that only 2% of its economy is represented by coins and notes while the figure is 7.7% in the United States of America

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[102] Ibid.
[103] Bitcoin is a deflationary currency, with 21 million total bitcoins that will be slowly introduced to the bitcoin supply via block rewards.
[104] Such as Digicash, Hashcash, and B-money. Bitcoin relies on Proof-of-Work, a peer validation protocol introduced by Hashcash, that expends computational power to solve cryptographic puzzles and to cast votes. As in Digicash, each node in Bitcoin maintains their own identity through public and private keys, authenticating transactions using blind signatures. As in B-money, every Bitcoin full node maintains a copy of the blockchain.
[105] H James 'Lucre's Allure: Throughout time, new currency has been associated with mystical qualities, and Bitcoin is no exception' (2018), International Monetary Fund, available at: *https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf*, accessed on 21 September 2018.
[106] Ibid.
[107] Ibid.
[108] Ibid 84.

(USA) and 10% in the European Union (EU).[109] In this regard, in line with these developmental shifts, cryptocurrencies aspire to be a new form of currency promising to maintain trust and stability of value through the use of liberated technology and a transparent platform.[110] This thesis agrees with these notions in that cryptocurrencies hold value based on the conviction that it is of value amongst users rather than having to be backed by governmental security like traditional currencies.

Cryptocurrencies consist of three elements, namely, a set of rules, transaction storage ledger and a decentralised network of users.[111] The set of rules are a computer code protocol known an encryption technology or code that mandates how users can transact. In this regard, when a transaction is engaged, a record of this transaction is stored on the digital ledger, which creates an open history of transactions verified by the decentralised network of participants.[112] These processes are conducted in accordance with the rules of the network protocol which are designed to prevent counterfeiting and fraudulent transactions.[113] In addition, these currencies only have value to the extent that someone is willing to accept them in exchange for something else, such as a good or service, as they are not backed by any financial assets.[114] The peer-to-peer model relies on the trustworthiness of users and their record of transactions.[115] This peer-to-peer nature of

[109] Ibid.
[110] Bank for International Settlements 'V. Cryptocurrencies: looking beyond the hype' (2018) BIS Annual Economic Report 2018, available at *https://www.bis.org/publ/arpdf/ar2018e5.pdf,* accessed on 10 July 2018.
[111] Ibid.
[112] Each transaction uses asymmetrical cryptography, originally appearing in the Diffie-Hellman Protocol in 1976, relying on a pair of keys, one private and the other public, linked together by an elliptical curve algorithm. The public key can be shared and allows you to receive transactions, the private key must be kept secret. Protecting these private keys is the singular way to securely keep control of your bitcoins. Although it is possible to trace all of the transactions linked to a public key, it is still an anonymous system as the owner of that public key is not necessarily known. The time and date information encoded in a block is referred to as its "timestamp". See: Ibid 22.
[113] Each block, besides the transaction and timestamp, has a unique identifier (Block 90 with a black background in the graphic below) composed of a "hash" connecting blocks to each other(8) . Technically, "hashing" converts a specific group of data into a hash, meaning a short digital signature unique to itself. The encryption algorithm used is called a "cryptographic hash function". The hash of a set of data can be considered a digital fingerprint, smaller and less complex than the original data, but identifying it uniquely and precisely. Hashing is considered to be "one-way": it is designed so that once a hash is created, meaning a fixed-length digital fingerprint created from an input of variable length data, it is impossible to reverse engineer the original data(9) . The hashing algorithm used by bitcoin is one of the most common: the Secure Hash Algorithm-256 (SHA-256), so-named because it produces 256 bit hashes. *See*: Ibid 22 and Ibid 110.
[114] Ibid 110.
[115] Ibid.

the blockchain is designed to remove the need for any intermediary parties that may act as a trusted intermediary for traditional currencies that are facilitated through banks and registered financial institutions.[116] The blockchain uses peer-to-peer networks to distribute a master copy with all the recorded and verified transactions of the public ledger.[117] This ensures that transactions are not duplicated by means of a double spend nor are they counterfeited.[118]

Cryptocurrency, despite is multiplicity, is still seen to be in its infancy.[119] In this regard, the terminology of many terms are new and require clarification in order to understand what cryptocurrency is and how it works. Firstly, as stated in the previous chapter[120], cryptocurrency is virtual or digital money. It can be mined, bought, sold or traded on cryptocurrency exchanges.[121] It is essentially based on blockchain technology which is a digital ledger or record of transactions also known as distributed ledger technology.[122] The blockchain is a large network of computers known as nodes that record and validate all transactions in a public tamper-resistant ledger, which is secure from tampering without a trusted third party.[123] The blockchain ledger system is an immutable

[116] P Prowse and J Tarmohamed 'Brave New World - International Cryptocurrency Regulation' (2018) Lexology, available at *https://www.lexology.com/library/detail.aspx?g=d1869337-0e54-4cc7-9e51-c8cbcd9f6cf1,* accessed on 10 January 2019.
[117] S Mabunda 'Cryptocurrency: The new face of cyber money laundering' (2018) University of the Western Cape, available at *http://repository.uwc.ac.za/xmlui/bitstream/handle/10566/4177/Mabunda_Cryptocurrency_2018.pdf?sequence=1&isAllowed=y,* accessed on 19 January 2019.
[118] Ibid.
[119] Ibid 26.
[120] Page 3.
[121] Ibid 116.
[122] The blockchain can be public and private blockchains which refers to open blockchains as permissionless and closed blockchains as permissioned or again as public or private blockchains. Blockchains with unrestricted access are the more well-known, supporting Bitcoin and Ethereum, for example. In a private blockchain, a regulatory authority authorises new members and manages read/write access. This authority may act on its own or be governed by the various participants. Compared to a public blockchain, private blockchains can operate by simple majority. *See*: Ibid 22 and R Smith 'Blockchain Distributed ledger technology and designing the future' (2018) available at *https://files.reedsmith.com/files/Uploads/Documents/2018/Blockchain.pdf,* accessed on 17 August 2018.
[123] Z Gurguc & W Knottenbelt 'Cryptocurrencies: Overcoming Barriers To Trust And Adoption' (2018) Imperial College London, available at *https://www.imperial.ac.uk/media/imperial-college/research-centres-and-groups/ic3re/CRYPTOCURRENCIES--OVERCOMING-BARRIERS-TO-TRUST-AND-ADOPTION.pdf,* accessed on 17 August 2018.

decentralised database that allows anonymous[124] parties across multiple geographies to engage in mutually beneficial transactions.[125]

When a party engages in a transaction, it must wait for the network to verify and validate its transaction, which is broadcasted on the network where special nodes known as miners build up a block of verified transactions through solving cryptographic puzzles.[126] The correctness of the information recoded on the block are agreed upon by the participants and then added to the previous blocks forming a chain of records.[127] Any attempts to edit the historical records on the blockchain will corrupt the system and immediately becomes noticeable to users therefore it is known as tamper-resistant and its records are irrefutable.[128] For example, if A wanted to give B a cryptocurrency, A would transfer the sum to B and the transaction will be verified as completed then transferred and recorded on a block, which is added to the other blocks. Mining nodes obtain cryptocurrencies for their work in verifying transactions which are held in digital wallets that can be exchanged for goods and/or services, or sold back into the market for profit.[129] Much like how banks earn commission for their services, those who help execute

[124] Encryption technology allows for users to remain anonymous.
[125] Ibid 123.
[126] Each block is validated by users known as "miners" (a reference to gold miners), and is then communicated to network nodes, users that possess copies of the entire ledger, who continuously update it. This validation of blocks prevents the risk of malicious attacks. A "consensus mechanism" decides who validates the next block to be added to the chain. In the case of Bitcoin, this is called "proof of work" because it is linked to a complex cryptographic problem successfully resolved through "mining", which is repeated on average every 10 minutes . Mining starts by obtaining a hash, beginning with a certain number of zeros, of the block that the miner wishes to solve. This operation, extremely resource intensive in terms of computer processing power, is motivated by the reward in Bitcoin for the winning miner. The validated block is then transmitted from peer-to-peer to each node which adds it to its copy of the blockchain. If two blocks are validated at the exact same moment, miners use either one and two parallel chains are created. The protocol expects that rapidly only the longest chain will survive, practically meaning the blockchain that the majority of nodes have adopted. Mining revenue is complemented by fees taken for each transaction that they add to the blockchain. The amount is theoretically determined freely by the users, but miners prioritize the highest fees, which vary as a function of the number of transactions in the queue". *See*: Ibid 22 and Ibid 116.
[127] The Financial Intelligence Centre 'Typologies' (2018) available at *https://www.fic.gov.za/Documents/TYPOLOGIES%20-%20September%202018.pdf*, accessed on 1 December 2018.
[128] Ibid 123.
[129] Ibid 116.

transactions (known as miners) receive cryptocurrencies[130] for their services which creates more coins in circulation.[131]

Cryptocurrencies can be issued in the form of tokens that allow users to buy and sell their tokens on secondary markets between their peers, exchanges or invest in companies in order to raise capital through initial coin offerings similar to share capital.[132] Publishing the block prevents double spending as there is a record of that currency being spent.[133] Evidently, these systems offer the scope for a foundational shift in business models and optimal traditional allocation mechanisms.[134] Any government thereby rendering it in theory, invulnerable to government intervention or manipulation, does not issue Cryptocurrencies.[135] However, this also means that, users are not safeguarded by the government in case of any ensuing issues arising thereof.[136] In order to close this gap, governments have to develop policies that can ensure market integrity and protect consumers.[137] This thesis suggests that without developing regulatory policies for the use of cryptocurrencies it may create resolute issues for users and financial institutions.

Despite its widespread popularity, Bitcoin and other cryptocurrencies have developed a reputation for assisting in the commission of terrorist and criminal activities[138], including,

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[130] Nakamoto's protocol provides that the Bitcoin reward for each minor validating a block should be divided by 2 every 210 000 blocks, which is around 4 years. It represented 50 bitcoins in 2012, then 25 in 2016, now 12.5 and will become 6.25 in 2020. See: Ibid 22.

[131] M L Sinrod 'Still don't understand the blockchain? This explainer will help' (2018) available at *https://www.weforum.org/agenda/2018/03/blockchain-bitcoin-explainer-shiller-roubini/*, accessed on 10 January 2019.

[132] Ibid 116.

[133] Ibid 123.

[134] Ibid.

[135] Ibid 110.

[136] Ibid.

[137] Ibid.

[138] There have been reports of cryptocurrency being used by terrorist groups like Islamic State. according to a 2015 Europol report, bitcoin has featured in high-profile investigations involving payments between criminals, and was used in over 40% of illicit transactions in the European Union. In 2014, reports emerged of Islamic State fighters in Raqqa, Syria facilitating small or domestic purchases in money transfer offices, and conducting long-distance international transactions using digital currencies like bitcoin. In January 2015 a key Islamic State fundraiser by the name of Abu-Mustafa argued that because the United States law enforcement authorities had begun to crackdown on mainstream financial platforms, the Darknet should be used to raise funds through digital currencies like bitcoin. Abu-Mustafa raised five bitcoins, valued at approximately $1,000, before the account was closed. In December 2017, a woman was arrested in New York for obtaining $62,000 in bitcoin to send to Islamic State. After a failed attempt to join Islamic State herself in January 2016, the woman used false information to acquire loans and multiple credit cards, which she transferred into bitcoin and other digital currencies prior to sending it via Pakistan, China, and Turkey

inter alia, money laundering, tax evasion, and the drugs trade.[139] This has been attributed to the fact that users are anonymous and can send and receive cryptocurrencies in absence of providing any personal identification.[140] Furthermore, bitcoin in particular is regarded as "the go-to currency for online illegal goods".[141] A relevant example illustrating the challenge occurred in October 2013, where the United States of America's Federal Bureau of Investigations (FBI) disbanded the notorious Silk Road website which was an online marketplace that sold drugs, stolen credit card numbers, fake identity documents, counterfeit currencies, hacking tools and even 'murder for hire' services in exchange for Bitcoin.[142] The FBI seized 600 000 bitcoins, worth U$80 million, that had been used in drug deal payments.[143] The director of Europol has also warned that "three to four billion pounds of criminal money in Europe is being laundered through cryptocurrencies". [144]

Enthusiasts however concede that the use of cryptocurrency for criminal activities is a concern but argue that the same could be debated where traditional cash is used for criminal means.[145] Both are seemingly impossible to trace on the black market and dark web.[146] This concern for regulation seems to be shared by various regulatory authorities and monetary agencies across the globe.[147] The United States Treasury Secretary has called on the G20 nations[148] to prevent cryptocurrencies from becoming "the digital equivalent of an anonymous Swiss bank account", while the International Monetary Fund

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to fund the terrorist group. *See*: N Malik 'How Criminals And Terrorists Use Cryptocurrency: And How To Stop It' *Forbes* 31 August 2018, available at *https://www.forbes.com/sites/nikitamalik/2018/08/31/how-criminals-and-terrorists-use-cryptocurrency-and-how-to-stop-it/#75f590fb3990*, accessed 29 October 2018.

[139] R Lowe 'Digital currencies 'continue to advance', but regulation needed' (2015) International Bar Association available at *https://www.ibanet.org/Article/NewDetail.aspx?ArticleUid=F184569D-3BA3-48FF-AE7B-22AC33A2C1A1*, accessed on 10 July 2018.

[140] Ibid.

[141] Ibid.

[142] Ibid.

[143] Ibid 84.

[144] Ibid.

[145] Ibid 139.

[146] To trace cash money is considerably difficult as it leaves no electronic footprint and can only be done by marked notes. See: Ibid 84.

[147] Ibid 84.

[148] Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union. See also: G20 Members available at *http://g20.org.tr/about-g20/g20-members/*, accessed on 3 January 201.

(IMF) spokesperson has warned that cryptocurrencies can pose considerable risks as potential vehicles for money laundering, financing terrorism, tax evasion and fraud.[149] As such, this thesis is of the view regulatory provisions must be enacted in order to close these illicit loopholes.[150]

2.3 CRYPTOCURRENCY RISKS AND LIMITATIONS

The introduction of cryptocurrencies have the potential to satisfy the various basic needs of economies and in particular developing economies, as will more fully be discussed in Chapter four. These systems can be used to engage cross-border transactions through the internet on computers and mobiles anywhere in the world.[151] However, this thesis observes that the cryptocurrency system has a number of concerns that need to be addressed before it can fully reach peak functionality. Expert economist, Antoine Martin, suggests that the functionality of cryptocurrencies will ultimately depend on how they compete with established payment methods.[152] He highlights that the issue of scalability of these currencies in picking validators to verify transactions is a time consuming and expensive process that consumes a tremendous amount of energy.[153] In addition, he highlights that these currencies are extremely volatile in its value thereby making its use unreliable.[154] In addition, the volatility of the cryptocurrency market dynamic as it is not

[149] Ibid 84.
[150] As noted earlier, Virtual currency systems are not inherently illicit and are used by legitimate consumers every day to conduct legal transactions. These systems allow users to move funds quickly and efficiently across great distances without being tied to one country's currency or worrying about international conversions. Like nearly any financial product, however, criminals to further their illegal activities can exploit these systems. Therefore, law enforcement has two primary interests in virtual currency. First, officers will investigate criminals who use virtual currency to move or hide money derived from criminal or terrorist acts (i.e., money laundering). Second, investigators will look at virtual currency businesses that violate laws proscribing money laundering or illegal money transmission. *See*: Ibid 63.
[151] The Financial Action Task Force *Virtual Currencies – Key Definitions And Potential Aml/Cft Risks* (2104) available at *https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf*, accessed on 17 December 2018.
[152] Such as cash, checks, debit, credit cards, and PayPal. See: A Martin & M Lee 'The future of cryptocurrencies? The view of two experts' (2018) World Economic Forum, available at *https://www.weforum.org/agenda/2018/02/hey-economist-what-do-cryptocurrencies-have-to-do-with-trust*, accessed on 10 January 2019.
[153] A Martin and M Lee 'The future of cryptocurrencies? The view of two experts' (2018) World Economic Forum, available at *https://www.weforum.org/agenda/2018/02/hey-economist-what-do-cryptocurrencies-have-to-do-with-trust*, accessed on 10 January 2019.
[154] Ibid.

confined to any particular border or linked to a particular nation or business thereby making it extremely difficult to predict which factors may affect its use and value.[155]

Cryptocurrency have been described as a disruptive technology as they are an alternative to the sovereign state's concept of fiat money which is resistant to sovereign law and international financial regulations.[156] However, to users, cryptocurrencies offer a perceived cheaper and more efficient method of transacting.[157] The removal of regulated and trusted financial intermediaries leave cryptocurrencies outside of the governments control and protection thereby weakening governments capacity to protect users from indignation.[158] The cryptocurrency framework is therefore a potential platform for, inter alia, money-laundering[159], trafficking of illicit goods[160], terrorism financing[161], hacking and

[155] G Aggarwal, V Patel, G. Varshney and K Oostman "Understanding Social Factors Affecting The Cryptocurrency Market' (2019) Cornell University, *arXiv*, available at https://arxiv.org/pdf/1901.06245.pdf, accessed on 3 February 2019.
[156] R L Frebowitz 'Cryptocurrency And State Sovereignty' (2018) Naval Postgraduate School, available at *https://calhoun.nps.edu/handle/10945/59663,* accessed on 17 October 2018.
[157] During normal fiat transactions, trusted third parties like banks, credit card companies, or escrow agents restrict and report transactions with ties to criminal or terrorist entities. *See*: Ibid.
[158] Ibid 156.
[159] The anonymity, liquidity, and borderless nature of cryptocurrencies makes them attractive to potential money launderers. The ability to rapidly open anonymous cryptocurrency accounts provides a low-risk means for criminal groups to convert and consolidate illicit cash and transfer proceeds across borders. *See:* Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx,* accessed on 10 January 2018.
[160] Cryptocurrencies provide an ideal means of payment for illegal goods and services, from narcotics, human trafficking, organs, child pornography, and other offerings of the "dark web". Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx,* accessed on 10 January 2018.
[161] The same anonymity and ease of creation makes cryptoaccounts ideal for persons to receive payments that might otherwise trigger terrorism financing or sanctions red flags. Although the use of cryptocurrencies is not yet widespread in terrorism financing, terrorist groups have been experimenting with cryptocurrencies since 2014 and Bitcoin has been raised for such groups through social media fundraising campaigns. *See*: Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx,* accessed on 10 January 2018.

identity theft[162], market manipulation, tax evasion[163] and fraud[164]. This is attributable to the fact that it allows transactions to anonymously occur directly between users without regulation or verification.[165] Users are therefore able to bypass traditional anti-money laundering (AML) and combating the financing of terrorism (CFT) systems.[166]

A further significant risk is that cryptocurrency transactions are instantaneous and irreversible without sympathy for error.[167] Accordingly, once a transaction has occurred, it cannot be converted, transferred or withdrawn, making the reclamation of illicitly engaged funds and erroneous transactions impossible.[168] The severity of this concern is aggravated by the fact that cryptocurrencies are expedient in transmitting value across national borders as they are not weighed down by exchange control regulations or multifarious government policies.[169] Therefore, it cannot be traced once made unlike credit cards, which can often recover funds lost through fraudulent actions.[170] Resultantly, these transactions lack consumer protection against fraud. However, in light of the dogmatic pressure to reject the autonomy of anonymity and impose AML/CFT regulations where cryptocurrency and traditional financial services sector markets interface, it

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[162] Virtual wallets and VCEs provide hackers with attractive targets for financial fraud and identity theft. If an account is hacked via one of these services, crypto holdings can be easily transferred to anonymous accounts and liquidated for fiat or other assets, with little or no possibility of reversing or cancelling the transactions after detection. *See*: Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx*, accessed on 10 January 2018.

[163] Cryptocurrencies have a high potential for tax evasion. This is due to the fact that users do not need to disclose their identity, transactions are peer-to-peer and can take place across borders. Given that tax evasion is already illegal in most jurisdictions, the key problems in this area relate to developing effective means of enforcement. *See*: International Monetary Fund 'Virtual Currencies and Beyond Virtual Currencies and Beyond: Initial Considerations' available at *https://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf*, date accessed 3 June 2018.

[164] While the blockchain in principle allows all actors to view and monitor exchange transactions, the ability to detect and deter insider trading, front-running, pump-and-dump schemes, and other forms of market abuse involving unregistered ICOs and unlicensed VCEs is severely limited. The absence of regulatory oversight of unregistered offerings and the ease with which criminal actors can create new accounts to execute manipulative schemes makes these markets vulnerable. *See*: Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx*, accessed on 10 January 2018.

[165] Intergovernmental Fintech Working Group 'FinTech Workshop' (2018) available at *http://www.treasury.gov.za/publications/other/IFWG%20Report%20April%202018.pdf*, accessed 16 January 2019.

[166] Such as now-your-customer (KYC) requirements. *See*: Ibid.

[167] Ibid 165.

[168] Ibid.

[169] Ibid *See also*: Ibid 127.

[170] Ibid 165. See also: Ibid 127.

appears that cryptocurrencies are trying to improve their operation in order to significantly compete with current payment methods and traditional trade transactions.[171] This thesis recognizes that cryptocurrencies have the potential to evolve to meet regulatory concerns however they also have the potential to evolve to circumvent regulatory controls. Accordingly, regulators have to ensure that regulatory objectives are focussed on addressing the risks and limitations associated with the use of cryptocurrencies and not on gaining control over users.

2.4 INTERNATIONAL TRADE TRANSACTIONS AND CRYPTOCURRENCY

The ubiquitous concept know as globalisation[172] has fuelled growth in international trade and commerce for many years thereby motivating the pursuit for legal harmonisation of laws across nations.[173] Accordingly, negotiations for the unification of trade through bilateral and multilateral treaties have been happening since the 19th century, some of which are still in existence today.[174] In this regard, diminishing barriers to trade and expanding access fresh and innovative technology have extending the opportunities for abundant international transactions.[175] Digital technologies are accordingly allowing businesses to reinvent preexisting business models in line with the developments of emerging markets.[176] As a driver of the Fourth Industrial Revolution, the WEF's Internet

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[171] Ibid 153. See also: Allen & Overy 'Legal and regulatory risks for the finance sector' (2018) available at: *http://www.allenovery.com/publications/en-gb/lrrfs/cross-border/Pages/Cryptocurrency-AML-risk-considerations.aspx,* accessed on 10 January 2018.

[172] "Globalisation is the process by which the world is becoming increasingly interconnected as a result of massively increased trade and cultural exchange. Globalisation has increased the production of goods and services. The biggest companies are no longer national firms but multinational corporations with subsidiaries in many countries. Globalisation has been taking place for hundreds of years, but has sped up enormously over the last half-century. Globalisation has resulted in, increased international trade a company operating in more than one country, greater dependence on the global economy, freer movement of capital, goods, and services." See: BBC 'What is globalisation?' available at *https://www.bbc.com/bitesize/guides/zxpn2p3/revision/1,* accessed on 8 January 2019.

[173] J A E Faria 'Legal Harmonization Through Model Laws: The Experience Of The United Nations Commission On International Trade Law' (2005), United Nations Working Group on Electronic Commerce, available at *http://www.justice.gov.za/alraesa/conferences/2005sa/papers/s5_faria2.pdf,* accessed on 17 December 2018.

[174] Ibid.

[175] University of Colorado Boulder 'Chapter 1: Introduction: Globalization and International Trade' available at *http://spot.colorado.edu/~maskus/teach/4413/ch1-new.pdf,* accessed On 10 July 2018.

[176] S Baller, A Di Battista; S Dutta and B Lanvin *The Global Information Technology Report* (2016) available at *http://reports.weforum.org/global-information-technology-report-2016/1-1-the-networked-readiness-index-2016/,* accessed on 23 June 2018.

for All initiative is taking advantage of ICTs to connect more than 4 billion people to the internet at national, regional and global levels.[177]

Cryptocurrency systems promise businesses swifter cross-border flows, reduced trade and transaction costs along which include operational and customer engagement costs.[178] In order for businesses to survive in the ever-evolving global economy, it is key for them to take advantage of new opportunities by matching the needs of consumers and leveraging of new systems.[179] The trade driven endeavours of the Word Trade Organization (WTO) and other international organisations such the UN, OECD and IMF has generated new opportunities and realities.[180] Together with their success in enhancing international trade over the past, persistent challenges, within cross border e-commerce trade, still exist calling for effective action to be taken that promotes and sustains economic development, growth and reduces poverty.[181] As such, improvements in ICTs have significantly enhanced individuals' abilities to access information, which has been a major catalyst for global integration and changed the way in which companies do business.[182] These new technologies are completely transforming at an unprecedented pace and speed, the way in which goods, services and information are produced and exchanged.[183]

Relevant to this discussion, the Intelligent Tech and Trade Initiatives (ITTI) was launched at the WTO in 2017 to explore how innovative technologies such as augmented

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[177] Ibid 2.
[178] Ibid 110.
[179] "A recent report by the US ITC estimated that the internet will, on average, reduce trade costs by 26 percent. As a result, SMEs that utilize the internet to trade on global platforms will have a survival rate of 54 percent, which is 30 percent higher than that of offline businesses. *See*: Ibid 2.
[180] United Nations Conference On Trade And Development 'Globalization For Development: The International Trade Perspective' (2008), United Nations available at *http://unctad.org/en/docs/ditc20071_en.pdf*, accessed on 12 June 2018.
[181] Ibid.
[182] A Andreou *The difficulties of determining whether a permanent establishment has been created by the presence of a foreign company* (Unpublished Mcom thesis, University of the Witwatersrand 2014), available at http://wiredspace.wits.ac.za/bitstream/handle/10539/15173/Antonia%20Andreou%20Master%20of%20Commerce%20Research%20Report%20.pdf?sequence=1&isAllowed=y, accessed on 10 June 2018.
[183] United Nations Conference on Trade and Development 'Aid for eTrade: Unlocking the potential of e-commerce in developing countries- Draft call for action' (2016) available at *http://unctad.org/meetings/en/SessionalDocuments/dtlict4d2016_call_for_action_en.pdf*, accessed on 12 July 2018.

intelligence (AI) and blockchain revolutionise the conceptual and functional methodologies to transactions in international trade, negotiations and positively impact global trade.[184] International trade is notably affected by new technologies due to the fact that numerous companies have begun accepting cryptocurrency payments which can be attributed to the fact that blockchain technologies allow for significant cost savings and enhanced business efficiency.[185] While traditional currency requires a central administrative system in place to operation, cryptocurrencies do not require any such administrative procedures to be conducted prior to transacting, as they are self-executory by a software.[186]

Consumers are embracing e-commerce shopping platforms with the development in innovative technologies such as smartphones, tablets and laptops that give consumers direct access to online markets.[187] However, the drawback internet based cross-border payments is time-consuming exchange control regulations.[188] Accordingly, many new business enterprises, many of which are based in developing countries, are now proposing global payments based on cryptocurrency to further incentivize global e-commerce.[189] The International Communications Union, Africa, in 2017, compiled a report that identified that only has a 22% internet usage rate as opposed to the world average of 48%.[190] It is suggested that this may undercut buoyant projections for the mass adoption of blockchain and cryptocurrency on the continent.[191] Furthermore, meagre electricity supply in many African countries continues to hinder access to the

[184]Intelligent Tech & Trade Initiative 'Building ITTI - A Discussion Paper' International Chamber of Commerce (2018) available at *http://unctad.org/meetings/en/Contribution/dtl_eWeek2018c04-ICCBrasil_en.pdf*, accessed on 5 July 2018.
[185] R de Caria, 'A Digital Revolution in International Trade? The International Legal Framework for Blockchain Technologies, Virtual Currencies and Smart Contracts: Challenges and Opportunities' (2017) *CINECA IRIS Institutional Research Information System* available at https://iris.unito.it/handle/2318/1632525#.W1mQH1YzZ-U, accessed on 12 June 1018.
[186] Ibid.
[187] World Trade organisation 'B. Towards A New Digital Era: The Future Of World Trade: How Digital Technologies Are Transforming Global Commerce' (2018) World Trade Report 2018 available at *https://www.wto.org/english/res_e/publications_e/world_trade_report18_e_under_embargo.pdf*, accessed on 21 September 2018.
[188] Ibid.
[189] Ibid. This will be discussed further in Chapter 3.
[190] P Rao 'Africa could be the next frontier for cryptocurrency' (2018) United Nation: Africa Renewal available at *https://www.un.org/africarenewal/magazine/april-2018-july-2018/africa-could-be-next-frontier-cryptocurrency*, accessed on 10 August 2.
[191] Ibid.

Internet, which cryptocurrency is predominately dependent on.[192] In this regard, it is highlighted that many lesser developed countries across the globe experience approximately 5 power outages a month, according to World Bank data, which last on average 3 hours.[193] Arguably, this has an extreme impact on the economy of these nations and their ability to interact with international marketplaces. Critics may therefore argue that Africa is not sufficiently equipped to reap the benefits of these advanced technologies. However, as will be discussed in Chapter three, Africa is nevertheless making noteworthy strides to take advantage of these technologies.

Following the attacks of 9/11 and the recent sub-prime crisis, a number of financial regulations have been issued requiring financial institutions to monitor the movement of money and the person carrying out such transactions.[194] Resultantly, Bronwen Kausch, explains that 'Know Your Customer' (KYC)[195] regulations became a requirement for countries committed to complying with global standards and preserving trade relationships with the worlds powerhouses.[196] In addition, the subsequent outcome of the sub-prime crisis has seen a further narrowing on how money changes hands and stricter consumer protection legislation are being enforced.[197] A possible unintended result of this is further "complex environment for electronic payments".[198] As such, cross border payment trade barriers make cryptocurrencies payments appear more attractive to traditional payment systems. However, this thesis is of the view that these regulatory

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[192] Ibid.
[193] E Thelwell 'Load shedding: How SA compares with the rest of the world' *Fin24* 9 February 2015, available at *https://www.fin24.com/Economy/Load-shedding-How-SA-compares-with-the-rest-of-the-world-20150209*, accessed on 23 June 2018.
[194] B Kausch *Regulating Mobile Money To Create An Enabling Business Environment*(2012) available at *http://wiredspace.wits.ac.za/bitstream/handle/10539/12774/BronwenKausch_MMICTPR_Oct2012.pdf?sequence=1&isAllowed=y*, *accessed* on 23 June 2018.
[195] KYC is an acronym for "Know your Customer", a term used for customer identification process. It involves making reasonable efforts to determine true identity and beneficial ownership of accounts, source of funds, the nature of customer's business, reasonableness of operations in the account in relation to the customer's business, etc which in turn helps the banks to manage their risks prudently. The objective of the KYC guidelines is to prevent banks being used, intentionally or unintentionally by criminal elements for money laundering. *See*: Westpac Banking Corporation 'Know Your Customer (KYC) Norms and Anti Money Laundering (AML)' available at: *https://www.westpac.in/media/12714/faq_on_kyc___aml.pdf*, accessed on 9 August 2018.
[196] Ibid 194.
[197] Ibid.
[198] Ibid.

practices have valuable purposes that can be used in the regulation of cryptocurrencies.[199]

2.5 ELECTRONIC COMMERCE

The growth of e-commerce and advancement of technology have widened enterprises' market base in domestic and overseas markets, enhanced job growth (particularly for women), and lowered barriers to entry compared to conventional trade.[200] Accordingly, in order to keep abreast of evolving expectations of digital customers, businesses need too constantly reinvent their offerings.[201] The race to deliver what consumers want in the age of instant communication and online shopping evolved tremendously.[202] These expectations now transcend traditional industry systems, with improved ICT, enhanced regulatory frameworks and innovative payment solutions for e-commerce, allowing countries to take advantage of the opportunities offered by online trade.[203]

E-commerce can be catalogued into four central areas of activity.[204] Firstly, "business-to-business" (B2B) which involves businesses selling to other businesses such as where wholesales sell to retail owners who then in turn sell to the end user i.e. the consumer.[205] The advantage of B2B commerce is that businesses constantly have larger orders to send to each other at once as compared to individual consumers. However, the risks are high regarding non-payment or errors in production that can lead to the demise of the business whereas smaller consumptions have lessened effects on the business as a whole. Secondly, business-to-government (B2G) which involves businesses doing business with governments through means such as tenders.[206] The advantages of B2G commerce is

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[199] This will be discussed further in Chapter 3.
[200] New Markets Lab in partnership with the Center for International Private Enterprise 'E-Commerce Legal Guide' (2018) draft available at *http://www.intgovforum.org/multilingual/sites/default/files/webform/e-commerce_legal_guide_draft_24_may_2018_nml.pdf*, accessed on 17 August 2018.
[201] World Economic Forum 'Digital consumption: new battlegrounds for engaging digital customers' available at *http://reports.weforum.org/digital-transformation/digital-consumption-new-battlegrounds-for-engaging-digital-customers/*, accessed on 9 August 2018.
[202] Ibid.
[203] Ibid 183.
[204] Ibid.
[205] Examples of these include food manufacturers such as Clover and Illovo Sugar.
[206] Examples of these include businesses that the government employs for the fulfilment of public services, inter alia, such as roadwork, construction and plumbing.

guaranteed payment from the government which is deemed a reliable source due to the collection of its tax base and own economic initiatives. However, there is a possibility of corruption when awarding contracts, which may result in loss of business. Thirdly, business-to-consumer (B2C) which involves businesses selling their products directly to consumers.[207] An advantage for B2C commerce is that it can be relatively easy to access larger consumer markets. However, it may be difficult to reach high financial targets and therefore a lot of marketing would be required.

Lastly, consumer-to-consumer (C2C) involves consumers selling their personal items or services to other consumers in a private capacity and not as a business.[208] It is noted that companies are increasingly taking advantage of the prospects created by advanced connectivity and eagerness of consumers toward e-commerce and online shopping.[209] The universally known "Amazon.com" allows consumers in countries across the globe to purchase goods from anywhere in the world by placing orders and paying over the Internet.[210] As such, these 'online businesses' now have the "world as their oyster" as they enjoy access to substantially larger markets for their goods to "advertise their products, receive orders, ship and receive payment electronically".[211] China, for example, major players have emerged, such as the JD.com (formerly 360Buy.com) and Alibaba Group and, which are now among the leading e-commerce companies in the world.[212]

Qatar's National E-commerce Roadmap, highlights that e-commerce has become imperative for businesses in the wake of enhanced technology, high-speed broadband

[207] Examples of these include retail store such as Zando, Takealot.
[208] Examples of these include selling an old couch on Gumtree or a used car or ebay. However, some sites charges high fees to list and sell products and there are risks involved with the direct consumer as you are dealing with someone who may not disclose their true identity which creates security risks and payment issues.
[209] World Trade Organization 'Aid for trade: Chapter 7' available at *https://www.wto.org/english/res_e/booksp_e/aid4trade17_chap7_e.pdf*, accessed on 1 June 2018.
[210] P Esselaar and J. Miller 'Towards Electronic Commerce in Africa: A Perspective from Three Country Studies' (2002) *The Southern African Journal of Information and Communication*, Vol 2, No 1 available at http://wiredspace.wits.ac.za/bitstream/handle/10539/19834/SAJIC-Issue-2-2001-Esselaar-Miller.pdf?sequence=1&isAllowed=y, accessed on 13 June 2018.
[211] Ibid.
[212] Ibid 209.

and sophisticated network infrastructures.[213] To evidence this profound development, the roadmap examples how e-commerce is transforming the marketplace worldwide, through looking at some of the most prosperous and admired companies.[214] For example:

> "Amazon, one of those companies, has no points of sale. Uber, the world's largest taxi company, owns no vehicles. Netflix, the largest pay TV service, owns no STB or transmission infrastructure and Alibaba, one of the world's most valuable retailers, has no inventory".

In this respect, world trade is growing exponentially with completely new and robust sectors dictated by constant increases in demand, adjustments in consumer expectations and modern technological and technical skills advancements.[215] Indeed, E-commerce is one of these sectors, which allows for the reduction and potentially even elimination of distance-related barriers to trade by transforming the way businesses interact among themselves, consumers and governments.[216] For example, Ant Financial together with Alibaba launched a blockchain based service which allows Filipino users to remit funds in Hong Kong to their communities in the Philippines.[217] These examples illustrate that what used to be a long tedious process can now be completed in seconds over the phone.[218] Similarly, companies like Toast and Tencent have also launched a Hong Kong-Philippines remittance service remitting funds within minutes.[219] Today, there are approximately 129 reported bitcoin ATM machines operating Australia, Botswana, Canada, New Zealand, Singapore, South Africa and the United Kingdom.[220]

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[213] Ministry of Information and Communications Technology 'e-Commerce Roadmap' (2015) available at *http://www.motc.gov.qa/sites/default/files/e-commerce_roadmap_2015_en.pdf*, accessed on 23 June 2018.
[214] Ibid.
[215] Ibid 180.
[216] Ibid 183.
[217] L Shen 'Jack Ma's Alibaba has launched a blockchain-based payment service' (2018) World Economic Forum, available at *https://www.weforum.org/agenda/2018/07/alibabas-ant-financial-just-launched-a-blockchain-based-remittance-service*, accessed on 1 August 2018.
[218] Ibid.
[219] Ibid.
[220] The Commonwealth *Working Group Report: The Commonwealth Working Group on Virtual Currencies* (2015) available at *http://thecommonwealth.org/sites/default/files/press-release/documents/P14195_ROL_Virtual_Currencies_D_Tait_V5_LoRes.pdf*, accessed on 25 May 2018.

Moreover, the 2016 Global Information Technology Report suggests that the Fourth Industrial Revolution represents the evolution of innovative system, which brings together technologies in novel and influential amalgamations built on:

> "the availability of global, digital communications; low-cost processing and high-density data storage; and an increasingly connected population of active users of digital technologies".[221]

It is well defined that as ICTs become ubiquitous, they resolve to profoundly modify our way of producing, consuming, communicating and interacting with each another.[222] However, even with advances in technology, presently, fraud, error and time lags by financial institutions during trade result in monetary businesses shortfalls.[223] The introduction of cryptocurrencies in the ecommerce marketplace is one such technology that has the potential to address such shortfalls. The blockchain platform offers enhanced access to the credit and investment network by cultivating efficiency through providing reduced transaction time and improved currency conversion.[224] Interestingly, Rebecca Liao, Vice President of business development and strategy at Skuchain, a blockchain based technology company, comments that blockchain's impact on world trade will come from its use by companies and financial institutions in using it to eliminate intermediaries in financial transactions, digitize contracts, and make ledgers easier to audit.[225]

At present, monetary transfers from across boarders can typically take days to complete thereby slowing down wheels of international trade.[226] As such, blockchain technology contains systematized and direct reconciliation algorithms, which enable swifter, virtually instantaneous payments.[227]

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[221] Ibid 176.
[222] Ibid.
[223] Ibid 184.
[224] Ibid.
[225] Ibid.
[226] Ibid.
[227] In addition, it provides a distributed digital record of transactions which allows for secure, standardized transactions to occur almost instantaneously across borders basically eliminating/limiting the traditional need for trust and coordination between parties. See: V Cram-Martos 'White Paper on Blockchain and Trade Facilitation' (2018) United Nations Centre for Trade Facilitation and Electronic Business, available

2.6 CONCLUSION

In his speech, "The Future of Money", the Bank of England of Governor explained that in the advance of technologies together with the abyss of the financial crisis which caused a collapse of confidence in financial systems the led to the revolution of cryptocurrency.[228] Consequently, financial technology firms are positioning themselves as competing forces to address evolving market's needs.[229] This thesis notes that although the use of cryptocurrencies are rapidly increasing, there are substantial risks involved where users are exploiting these instruments for nefarious purposes.[230] Therefore, money-laundering considerations, consumer safety concern, general company risk are some of the risks that need immediate attention in order for cryptocurrencies to reach market optimization.[231]

It has been established in this chapter that the swift pace of technological transformation has indeed enhanced the wellbeing and living standards of billions of people around the world by creating a more integrated global economy. These advance have been made possible through the "spread of innovation, information and education which has spurred cross-border collaboration and competition", all of which have facilitated technological advances.[232] Further, the role of WTO in promoting and regulating international trade has led to its advancement and global development.[233] Some observers argue that blockchain's potential as a transformative invention could set off rapid change to further revolutionise the global economy due to the breadth of its possible applications.[234] The technology has the potential to secure digital systems from cyberattacks, and virtually instantaneously settle transactions which could save businesses hundreds of millions of

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at *http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p70_VirginiaCram-Martos_en.pdf*, accessed on 12 June 2018.

[228] House of Commons Treasury Committee 'Crypto-assets' (2018) available at: *https://publications.parliament.uk/pa/cm201719/cmselect/cmtreasy/910/910.pdf*, accessed on 4 January 2019.

[229] Ibid 165.

[230] Ibid.

[231] Ibid.

[232] World Trade Organization *World Trade Report* (2017) available at *https://www.wto.org/english/res_e/booksp_e/world_trade_report17_e.pdf*, accessed on 10 July 2018.

[233] Ibid.

[234] Ibid 184.

dollars each year.[235] The reality, however, is that many of blockchain's applications will bring about only nominal improvements until the challenges outlined by critics are addressed.[236] This thesis agrees with these concerns and endorses that without any control or monitoring mechanism the value and survival of cryptocurrencies is capricious. It is therefore necessary, for the subsistence of cryptocurrency, that these shortcomings be addressed with resolve.

Chapter three will further explore these challenges by briefly setting out proposed international regulatory policies. It will further look at how selected international organisations, developed and lesser developed countries are treating the use of cryptocurrencies.

[235] Ibid.
[236] Ibid.

CHAPTER 3

THE REGULATION OF CRYPTOCURRENCY IN SELECTED COUNTRIES AND BY INTERNATIONAL ORGANISATIONS

3.1 INTRODUCTION

As eluded to in chapter two, technologies are evolving rapidly and are expected to have an overwhelming international impact on our society and economy.[237] Accordingly, the internet and internet-based technology have given rise to a new area of international crime. This has resulted in it being now imperative to implement technical and organizational strategies to ensure cybersecurity.[238] As such, new regulatory structures must be adopted to ensure that new technological forces are channeled in a way, which brings about protection and broad-based gains to societies.[239] This thesis agrees that there is a prevalent need for the regulation of these technologies to maintain trust and security in electronic communication and transactions. The "rise of cryptocurrencies and related technology", in particular, bring to the forefront numerous policy concerns highlighted in the previous chapters.[240] Thus, authorities[241] are searching for ways to ensure, the integrity of international and domestic markets, payment systems, safeguard of consumers and overall financial stability.[242] A critical deterrent is to prevent the use of funds for illicit means while preserving incentives for innovation.[243] These are largely recurrent objectives in the technology space. However, cryptocurrencies raise unprecedented challenges which call the development of unique approaches.[244] This thesis highlights that traditional approaches are no longer sufficient to satisfy developing

[237] The development of the commercial internet has occurred concurrently with a massive expansion of the global economy, which has experienced expansive growth in nominal terms from US$11.1 trillion in 1980 to US$73.5 trillion in 2016. See: Ibid 2.
[238] Cybersecurity refers to the security of an enterprise's assets (or user's assets in the consumer's case) in the cyber environment. Broadly, cybersecurity covers "connected computing devices, personnel, infrastructure, applications, services, telecommunications systems, and the totality of transmitted and/or stored information. *See*: Ibid 200.
[239] Ibid 2.
[240] Ibid 110.
[241] Such as government, international bodies and regulators.
[242] Ibid 110.
[243] Ibid.
[244] Ibid.

technological advances and new approaches need to be undertaken in order to create an inclusive global trade society.

At present, the regulatory environment is divergent due to differing regulatory practices for cryptocurrencies across jurisdictions.[245] As the modern digital economy takes shape, it will be essential to provide the correct framework conditions to ensure its sustainability.[246] Writing for the *Harvard Business Review*, Stephen Obie and Mark Ramussen argue that without clear regulations, cryptocurrency innovation is "being stifled".[247] Further, the authors explicate that "entrepreneurs and investors sit on the side-lines in fear" of significant drops in value and of innocently conflicting with the law.[248] This approach needs to be improved to help to "promote order, consistency, and accountability within the cryptocurrency market without imposing undue burdens".[249] In doing so, safeguarding consumers from "the risks of fraud, extreme volatility and lack of disclosure" as regulators as some of the preliminary challenges have demarcated well jurisdictional reach experienced.[250] It is suggested by numerous authors that dominant economies should make efforts towards establishing an international coordinated regulation for the use of cryptocurrencies.[251] This thesis agrees with these beliefs and surmises that the dominant economies are the key to leading the regulatory crusade. Through their advanced trade practices and international relations, these economies are in the best position to convene to develop an international regulatory guideline.

As a result of the fact that cryptocurrencies can be created and traded worldwide, limited success will only be possible if jurisdictions continue to take differing approaches.[252] Accordingly, this Chapter will look at the foreign law and the regulatory reach of particular

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[245] Ibid 31.
[246] Ibid 2.
[247] S J Obie & M W Rasmussen 'How Regulation Could Help Cryptocurrencies Grow' *Harvard Business Review* 17 July 2018, available at *https://hbr.org/2018/07/how-regulation-could-help-cryptocurrencies-grow,* accessed on 5 August 2018.
[248] Ibid.
[249] Ibid.
[250] M McKee 'Regulation of Virtual Currencies' (2018) DLA Piper, available at *https://www.ucl.ac.uk/laws/sites/laws/files/02_mckee_ucl-blockchain.pdf*, accessed on 17 August 2018.
[251] T Wilson 'Global rules on cryptocurrencies needed: Circle CEO'. *Reuters* 22 October 2018 available at *https://www.reuters.com/article/us-crypto-currencies-circle/global-rules-on-cryptocurrencies-needed-circle-ceo-idUSKCN1MW2E2,* accessed on 5 January 2019.
[252] Ibid 228.

international organisations such as the WTO, OECD, IMF, World Bank, BIS, UN, FATF, FSB and WEF. It will then discuss country specific treatment of cryptocurrencies focusing on developed and lesser-developed countries. From these discussions, it will highlight some proposed international regulations and conclude that a joint international protocol should be developed to adequately satisfy the needs of cryptocurrency users and governments.

3.2 BRIEF OVERVIEW OF FOREIGN LAW POSITION

A Congressional Research Service Report, identified that there are three types of responses which have taken shape in the regulation of cryptocurrency across the globe. Firstly, governments in countries such as Singapore, Switzerland and Malta, are cryptocurrency hubs, which attract and develop the cryptocurrency industry in their respective countries.[254] Countries like Venezuela, Iran and Russia are embracing cryptocurrencies as a method to address specific financial issues such as US sanctions and economic crisis.[255] Secondly, governments in countries such as South Korea, India and China have prohibited the use of cryptocurrencies or associated activities.[256] Thirdly, governments, in European countries and the United States, are seeking, through regulation of cryptocurrencies, to balance financial innovation and risk-management.[257] As such, international organisations and forums are now engaged in extensive policy recommendation discussions on how best to monitor and regulate this new digital enigma.[258]

The WEF'S "Global Agenda Council on the Future of Software and Society" highlighted that technology has so fundamentally changed many behaviors and processes being

[253] Ibid 116.
[254] Ibid 85.
[255] Ibid.
[256] Ibid.
[257] Ibid.
[258] They have examined a range of issues, including the utility of digital currencies for improving the international payments systems, the possible threats digital currencies may or may not pose to international financial stability, the divergence of national-level cryptocurrency regulations and whether international regulatory coordination is desirable, how cryptocurrencies should be treated in bank prudential regulation, and how to adapt international recommendations to combat money laundering and terrorist financing in light of cryptocurrencies. *See*: Ibid 85.

governed that current regulations are not fully relevant.[259] One key challenge to innovation oversight is due to the constant evolution of technologies that change far faster than regulatory regimes.[260] Accordingly, this new "digital economy requires new types of leadership and agile governance frameworks"[261] to anticipate and react quickly to emerging technologies, changing circumstances as a "critical ingredient for the success and sustainability of these technologies".[262] In addition, the concern for regulatory authorities in determining regulatory parameters revolves around how to resolve the constrained jurisdiction of their powers with the borderless nature of cryptocurrencies.[263] Hence, the development of internationally harmonised rules for cryptocurrencies is the key concern facing regulatory and legislative bodies.[264] The transnational character of cryptocurrencies complicates the task by requiring almost universal consensus among the states holding radically divergent positions on cryptocurrencies.[265] Due to the borderless nature of these currencies, the best bodies to develop such regulatory measures are international organisations.[266] It is noted that these notions already begun to have form the centre of discussions for many of these organisations.[267] This thesis is of the opinion that such international regulatory frameworks are imminent.

3.3 PARTICULAR INTERNATIONAL ORGANISATIONS REGULATORY

3.3.1 WORLD TRADE ORGANISATION

As briefly mentioned in chapter two, the WTO has been the foremost driver in the development of the new global e-commerce economy and the expansion of international

[259] Ibid 2.
[260] Ibid.
[261] Create governance systems that are more robust, adaptable, and responsive to changing technologies if their decision-making frameworks valued outcomes over rules; if they valued responding to change over following a plan; participation over control; and self-organization over centralization. *See*: Ibid 2.
[262] Ibid 2.
[263] Ibid 250.
[264] Ibid.
[265] Ibid.
[266] R Partington 'Fight fire with fire': IMF's Lagarde calls for bitcoin crackdown' *The Guardian* 13 March 2018, available at *https://www.theguardian.com/technology/2018/mar/13/imf-christine-lagarde-calls-bitcoin-crackdown-cryptocurrencies,* accessed on 22 December 2018.
[267] For example, the G20 put cryptocurrencies on the agenda for a November summit, which could lead to greater international collaboration.

trade" through its focussed efforts on "market integration, reduction of trade barriers and technology sharing.[268]

Established in 1995 at the Uruguay Round of multilateral trade negotiations, the WTO has transformed the world trading system profoundly.[269] The GATT system, which later led to the WTO, was born from the economic chaos of the 1930s, which fuelled economic turmoil and international tension leading to World War II.[270] Noting the success of the United Nations and World War II, the primary objective was to establish an International Trade Organization (ITO) that could to create an open and prosperous global economy as a basis for global peace.[271] However, when the USA representatives failed to get approval from their Congress, the ITO Charter was not realised. Instead, this failed attempt led to the transitory adoption of the GATT for five decades.[272] The international membership has now grown from 23 under the GATT to 164 members and now covers 98% of global commerce.[273] During its 47 years, GATT created a *de facto* global trade organization that eventually involved approximately 164 countries.[274] The GATT was amended through various rounds of negotiations by numerous supplementary codes and agreements, interpretations, waivers, reports from dispute settlement panels and Council decisions.[275]

The new multilateral organisation was then brought with substantial changes but some of the core pillars remained. A main pillar of the WTO is the principle of trade without discrimination.[276] The WTO aims to create a trading system that treats all trading partners

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[268] The World Bank Group & The World Trade Organization 'The Role of Poverty' (2015) available at *https://www.wto.org/english/res_e/booksp_e/worldbankandwto15_e.pdf*, accessed on 27 April 2018.
[269] Ibid 180.
[270] World Trade Organization 'Chapter 3: The WTO at twenty Challenges and achievements' (2015) available at *https://www.wto.org/english/res_e/booksp_e/wto_at_twenty_e.pdf*, accessed on 29 April 2018.
[271] A Narlikar, M J Daunton & R M Stern *The Oxford Handbook on The World Trade Organization* 2012 p.124, available at: *http://catalogue.library.brocku.ca/record=b2398514~S0*, accessed on 29 April 2018.
[272] Ibid.
[273] Ibid 270.
[274] M Bailey *The Post–Cold War World 2017.* Chicago: Britannica Educational Publishing, EPUB *http://eb.pdn.ipublishcentral.com/product/postcold-war-world*, available at accessed on 18 June 2018.
[275] Ibid.
[276] The World Trade Organization 'What is it' available at *https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm*, accessed 9 March 2018

equally.[277] As such, it is based on two principles aimed at reducing trade barriers and creating a uniform trading system. [278] The first principle, the most-favoured nation principle[279], requires that countries reduce their trade barriers, duties, grants and levies with their trading partners and ensure that they do not discriminate against one another.[280]

There are however, some exceptions to this rule wherein countries can for example, establish free trade agreements[281] that allow different trade rules to signatories to those agreements.[282] In addition, developing and least developed countries are granted specialised treatments in order to assist in developing their economies such as reduced tariffs.[283] These exceptions apply only under strict conditions as the general MFN principle mandates that if a country treats another in a specific way; it must treat all countries in the exact same manner.[284] The second principle of the WTO is the national treatment rule[285], which involves treating locally produced goods and services the same as imported goods and services once it has entered the domestic market.[286] It is noted that the levying custom duties are not infringements of this principle.[287]

The WTO rules on non-discrimination, MFN and national treatment, are designed to secure open, fair and undistorted competition conditions of trade.[288] Accordingly, the WTO efforts are focused on lowering trade barriers, such as reduced customs or tariffs, which is one of the most influential means of encouraging trade.[289] With stability and predictability, investment is encouraged, jobs are created and consumers can fully enjoy

[277] Ibid.
[278] Ibid.
[279] Found in the Article 1 of the GATT, Article 2 of GATS, and Article 4 of the Agreement on Trade-Related Aspects of Intellectual Property Rights
[280] Ibid 276.
[281] Article XXIV of the General Agreement on Tariffs and Trade 1994.
[282] Ibid 276.
[283] Ibid.
[284] Ibid.
[285] The first article of the General Agreement on Tariffs and Trade, which governs trade in goods. MFN is also a priority in the General Agreement on Trade in Services (Article 2) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (Article 4).
[286] Ibid 276.
[287] Ibid.
[288] World Trade Organisation 'Detailed Presentation of the WTO: legal underpinnings' available at *https://ecampus.wto.org/admin/files/Course_385/Module_2264/ModuleDocuments/WTO_Legal-L2-R1-E.pdf,* accessed on 17 August 2018.
[289] Ibid.

the benefits of competition.[290] Essentially, the multilateral trading system is an attempt by governments to make the business environment stable and predictable but it fulfils these objectives with the assistance of other organisations.[291]

3.3.2 THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The Organisation for Economic Co-operation and Development (OECD) is the successor of the Organisation for European Economic Co-operation (the OEEC), which was formed to administer American and Canadian aid under the Marshall Plan for the reconstruction of Europe after the Second World War.[292] Since it took over from the OEEC in 1961, the OECD[293] has endeavoured to provide analytical expertise to develop robust economies in its member countries by sharing its accumulated experience.[294] The OECD consists of 33 member and 6 non-member countries that subscribe to its agreements and treaties, which allows it extensive global reach.[295] It must be noted that the OECD decisions and recommendations are applicable to member and non-member states to the extent that they transact with a member state.[296]

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[290] Ibid 176.
[291] Ibid.
[292] S L Gereda 'The Electronic Communications and Transactions Act' Grant Thornton, available at *http://thornton.co.za/resources/telelaw12.pdf,* accessed 25 September 2018.
[293] The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies. *See*: OECD Developments in Steelmaking Capacity of Non-OECD Economies 2010 OECD Publishing available at *https://www.oecd-ilibrary.org/industry-and-services/developments-in-steelmaking-capacity-of-non-oecd-economies-2010_steel_non-oecd-2010-en-fr,* accessed on 9 March 2018.
[294] Ibid 292.
[295] 33 OECD member countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel(1), Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States and 6 non-member economies: Brazil, China, India, Indonesia, Russia, South Africa. See: OECD 'OECD Composite Leading Indicators: Reference Turning Points and Component Series' available at *http://www.oecd.org/sdd/leading-indicators/oecdcompositeleadingindicatorsreferenceturningpointsandcomponentseries.htm, accessed on 13 November 2018.*
[296] OECD 'Guidelines for Consumer Protection in the Context of Electronic Commerce' (2000) OECD Publishing, Paris, available at *https://doi.org/10.1787/9789264081109-en-fr,* accessed 17 October 2018.

The OECD's Committee on Consumer Policy (CCP) developed the OECD Guidelines for Consumer Protection(the Guidelines) in the context of e-commerce which aims to ensure effective consumer protection for online B2C transactions through the elimination of the uncertainties surrounding online transactions.[297] The Guidelines play a major role in assisting governments, business and consumer representatives develop and implement online consumer protection mechanisms short of erecting barriers to trade.[298] As such, non-compliance with the Guidelines might lead to the exclusion of nations from certain e-commerce-related business with OECD member countries.[299] The thesis is of the notion that these Guidelines can be advanced to provider member states with direction with regard to the regulation of cryptocurrencies. Accordingly, the development of cryptocurrency regulation must conform with the consumer protection provisions of the Guidelines.

3.3.3 INTERNATIONAL MONETARY FUND

The IMF[300] monitors the economies and financial systems serving as a catalyst for forging consensus and a forum for the exchange of ideas to provide suggestive amendments to policies and regulatory structures in an effort to aide their members build institutional capacity based on a global perspective.[301] The Governor of the central bank of Sweden, Stefan Ingves, in an article with the IMF explained that he personally does not consider cryptocurrencies as currency but rather as high-risk investment due to its unpredictability and susceptibility to decreases in value based on numerous factors.[302] He notes that

[297] Ibid.
[298] Ibid.
[299] Ibid 292.
[300] The International Monetary Fund (IMF), an international organization tasked with promoting international monetary stability, has weighed the pros and cons of cryptocurrencies. IMF Managing Director Christine Lagarde has said that international regulation and supervision of cryptocurrencies is "inevitable." The IMF has also discouraged at least one country (the Marshall Islands) from adopting a digital fiat currency, and released a staff discussion paper conceptually evaluating the creation of digital fiat currencies. *See*: C. Lagarde (2018), "A Regulatory Approach to Fintech We must guard against emerging risks without stifling innovation" International Monetary Fund, available at: *https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf,* accessed on 3 January 2018.
[301] C. Lagarde (2018), "A Regulatory Approach to Fintech We must guard against emerging risks without stifling innovation" International Monetary Fund, available at: *https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf,* accessed on 3 January 2018.
[302] S Ingves 'Going Cashless the governor of the world's oldest central bank discusses his country's shift toward digital money' (2018) International Monetary Fund available at *https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf,* accessed on 20 September 2018.

digitalization, technical advancements, and globalization are progressive developments that expand joint economic welfare and therefore calls for collective regulatory communications that can prevent the potential market crashes.[303] Similarly, Christine Lagarde, managing director of the IMF, expressed that in a globalized economy, financial shocks rapidly resonate across national borders therefore responding to a financial crisis necessitates global cooperation.[304] Despite their inherent risks, she urges that, an open mind must be kept regarding cryptocurrencies and financial technology as they have the potential to improve our lives.[305] In this regard, as cryptocurrencies have no borders and jurisdictional restrictions, she requests the development of a collaborative forward-looking regulatory framework that will allow for creativity and flexibility of innovation.[306] Furthermore, the IMF Director, also warned that an uncoordinated response to the regulation of these currencies will "simply migrate toward more lightly regulated jurisdictions in a race to the bottom". [307] This thesis agrees with these submissions and agrees that cooperative governance is needed in order to usurp the benefits cryptocurrency markets have to offer.

3.3.4 THE BANK FOR INTERNATIONAL SETTLEMENTS

The Bank for International Settlements (BIS)[308], fosters monetary and financial stability through discussion and collaboration among central banks, has assessed the utility and

[303] Ibid.
[304] Ibid 301.
[305] Ibid.
[306] Ibid.
[307] Ibid.
[308] The BIS mission is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks. It was established in 1930, the BIS is owned by 60 central banks, representing countries from around the world that together account for about 95% of world GDP. Its head office is in Basel, Switzerland and it has two representative offices: in Hong Kong SAR and in Mexico City. It fosters discussion and facilitating collaboration among central banks, supports dialogue with other authorities that are responsible for promoting financial stability carrying out research and policy analysis on issues of relevance for monetary and financial stability acting as a prime counterparty for central banks in their financial transactions serving as an agent or trustee in connection with international financial operations. As part of its work in the area of monetary and financial stability, it regularly publish related analyses and international banking and financial statistics that underpin policymaking, academic research and public debate." *See*: Bank for International Settlements 'About BIS-overview' available at *https://www.bis.org/about/index.htm*, accessed on 3 February 2019.

risks of digital fiat currencies.[309] In 2018, the BIS published a report on digital fiat currencies which highlights the different approaches digital fiat currencies could be designed, including the extent of access, degree of anonymity, and operational availability, among other features, It also discusses the potential implications for payment systems, monetary policy implementation and transmission, and the structure and stability of the financial system.[310] The report interestingly highlighted the extreme difficulty of recognizing a real detailed economic challenge that virtual currencies resolve, as well as sluggish, costly and energy intensive cryptocurrencies transactions.[311] The report argues that distributed ledger technology, that is used to manage cryptocurrencies, could guarantee other programs, in particular the simplification of administrative processes in financial transaction settlement.[312]

3.3.5 UNITED NATIONS

The UN suggests that governments should have consideration for the model laws on e-commerce, signatures and Convention on the Use of Electronic Communications in International Contracts in reviewing their legal framework as a basis for preparing new laws or adjusting current laws.[313] In doing so, the UN urges governments to also have regard for the development of a neutral legal infrastructure, which will have the effect of removing obstacles in international trade.[314] The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) has acknowledged the possible benefits for trade provided through these technological advances.[315] This centre is a

[309] Bank for International Settlements 'Central Bank Digital Currencies' (2018) Committee on Payments and Market Infrastructures, available at *https://www.bis.org/cpmi/publ/d174.pdf*, accessed on 10 January 2019.
[310] Ibid 85.
[311] Ibid.
[312] Ibid.
[313] In 1996, the United Nations General Assembly adopted a universal guideline known as the MLEC, in order to provide a legislative template of internationally acceptable principles to remove legal disparities and create a more secure market for e-commerce. The MLEC intends to facilitate the use of electronic communications by encouraging the international harmonisation of domestic legal rules for electronic communications. It applies to data messages used for commercial activities whether contractual or not. In addition to MLEC, the UN adopted an additional guide for the use of e-signatures. The Model Law on e-signatures was enacted to create additional legal certainty and technical reliability to equate the use of electronic signatures to handwritten signatures. *See*: Ibid 70.
[314] Ibid 70.
[315] United Nations Economic Commission for Europe 'UN/CEFACT' available at: *https://www.unece.org/cefact/*, accessed on 19 June 2018.

subsidiary body of the European Economic Commission of the United Nations, which represents as a central focus for guidelines on trade facilitation and electronic business standards in the United Nations Economic and Social Council (UNESC).[316] It recognizes the value of blockchain technology for governments and businesses constituencies.[317] It therefore suggests new guidelines for national governments as to how to safest use and/or manage this new technology, should be developed in order to maximize the existence of new technical specifications by UN/CEFACT.[318] For example, IBM recently publicised the undertaking of a project together with countries in the Pacific region using blockchain technology for speedier financial transfers, which will increase users access to global finance. [319] It is noted that blockchain also "has the potential to aid in currency conversion" by converting a currency into a token and using those tokens on blockchain networks which could be unaffected by conversion rates.[320] Accordingly, developing and least developed countries[321] can potentially benefits enhanced access to finance and investments at lower costs.[322]

The UN's 2030 Sustainability Goal 17 focuses on "strengthening the means of implementation and revitalises the global partnership for sustainable development, technology and innovation are at the forefront of this initiative".[323] In this regard, the UN undertook to enhance regional and international cooperation regarding technology and

[316] Ibid.
[317] V Cram-Martos 'White Paper on Blockchain and Trade Facilitation' (2018) United Nations Centre for Trade Facilitation and Electronic Business, available at *http://unctad.org/meetings/en/Presentation/dtl_eWeek2018p70_VirginiaCram-Martos_en.pdf,* accessed on 12 June 2018.
[318] Ibid.
[319] Ibid 184.
[320] Ibid.
[321] As at 2018, these countries are: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Dem. Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia. *See*: United Nations 'LDCS at a glance' available at *https://www.un.org/development/desa/dpad/least-developed-country-category/ldcs-at-a-glance.html,* accessed 8 January 2019.
[322] Ibid 184.
[323] United Nations 'Transforming our world: the 2030 Agenda for Sustainable Development'' (2015), available at: *https://sustainabledevelopment.un.org/post2015/transformingourworld,* accessed on 10 December 2018.

innovation.[324] This notes that cryptocurrency has the means to realise these goals in respect of enhanced technology developments and payment methods now being accessible across the globe.[325] In addition, promoting the development of these technologies are in accordance with its undertaking to "promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system" under the WTO.[326] As such, it undertook to significantly increase the exports of developing countries, in particular with a view of doubling the least developed countries' share of global exports by 2020.[327] However, the continued development and enhancement of the cryptocurrency sphere is dependent on the looming regulatory restrictions that stand to be implemented going forward.

3.3.6 THE FINANCIAL ACTION TASK FORCE

The Financial Action Task Force (FATF), an intergovernmental organisation consisting of thirty-five member-states, associates and observe members, two regional organisations as well as members of FATF regional bodies.[328] The FATF is known as the global standard setter for implementing measures to achieve common goals against money laundering and provide members with assistance in developing anti-money laundering regulations.[329] The FATF has provided guidelines for its members in dealing with "money-laundering and terrorist-financing" of cryptocurrencies.[330] The FATF move is an essential step towards global standards in an industry widely known for its weak "consumer

[324] Ibid.
[325] Ibid.
[326] Ibid.
[327] Ibid.
[328] FATF is the organisation that sets standards and promotes effective implementation of legal, regulatory, and operational measures for combating money laundering and terrorist financing. It has adapted its recommendations to combat money laundering and terrorist financing to clarify how they apply in the case of financial activities involving virtual currencies. *See*: Financial Action Task Force *Regulation of Virtual Assets* (2018) available at *http://www.fatfgafi.org/publications/fatfrecommendations/documents/regulation-virtual-assets.html,* accessed on 9 January 2018. *See also*: M Campbell-Verduyn 'Bitcoin, Crypto-Coins, And Global Anti-Money Laundering Governance' (2018) Balsillie School of International Affairs, available at *https://www.researchgate.net/publication/322596368_Bitcoin_crypto-coins_and_global_anti-money_laundering_governance,* accessed on 15 April 2018.
[329] M Campbell-Verduyn 'Bitcoin, Crypto-Coins, And Global Anti-Money Laundering Governance' (2018) Balsillie School of International Affairs, available at *https://www.researchgate.net/publication/322596368_Bitcoin_crypto-coins_and_global_anti-money_laundering_governance,* accessed on 15 April 2018.
[330] Ibid 301.

protection, volatile prices and frequent breaches of security".[331] FATF has worldwide jurisdictions which could oversee licensing and/or regulation of cryptocurrency exchanges and other related companies. [332] It must be noted that the manner in which different countries implement cryptocurrency rules will be subject to recurrent review by FATF. Moreover, countries that do not follow FATF's recommendation could potentially be added to a "FATF blacklist" of sorts, which could limit countries from accessing the global financial system. [333] Such legislative dissonance between different countries, with separate nations treating virtual currencies in wholly different ways, has created a murky regulatory environment for businesses dealing with cryptocurrencies.[334]

3.3.7 WORLD ECONOMIC FORUM

WEF is a non-for-profit "international organization for public-private cooperation" that strives to foster entrepreneurship in the global public interest while upholding the highest standards of governance.[335] This body is described as the forum focused on the leading political, business and other social changes in shaping global, regional and industrial agendas.[336] It is independent, impartial and not tied to any special interests.[337] The Forum's activities are blends and balances many kinds of organizations, from both the public and private sectors, international organizations and academic institutions.[338]

The International Bar Association (IBA) argues that the:

> "WTO may be equipped to deal with technical issues such as authentication, encryption, Internet governance and domain names or cultural and human

[331] Ibid 251.
[332] Ibid.
[333] R Pihl 'Intergovernmental AML Watchdog Working on International Cryptocurrency Regulations' *Toshi Times* November 2018, available at https://toshitimes.com/intergovernmental-aml-watchdog-working-on-international-cryptocurrency-regulations/, accessed on 1 December 2018.
[334] Ibid.
[335] World Economic Forum 'Our Mission' available at *https://www.weforum.org/about/world-economic-forum*, accessed on 1 October 2018.
[336] Ibid.
[337] Ibid.
[338] Ibid.

resource issues such as the encouragement of diversity in local and linguistic content, computer literacy and education."[339]

In this regard, the WTO's Declaration on Global Electronic Commerce[340] established that a far-reaching initiative that examines the e-commerce trade issues, taking into consideration the development needs of developing nations, may be relevant in designing regulatory practices.[341] The WTO as a global regulatory body will allow for a uniformed global approach that will be able to keep up with rapid economic and technological developments.[342] The IBA highlights that the "multilateral trading system is the ideal system" to ensure that opportunities presented by technology advances will be maximised while mitigating adverse effects.[343] This will require a global consorted effect to further develop the global economic system so that the benefits can be reached on a larger scale.[344]

A key challenge for regulatory regimes is the rapid pace of technologies as more appropriate forms of innovation governance, is required to keep abreast with these advances.[345] As the WEF's Global Agenda Council on the Future of Software and Society highlighted, since technology has fundamentally changed many behaviors and processes being governed, therefore the current regulations require revision.[346] Inspired by agile approaches used in software development, the Council took to create "agile governance" principles in an attempt to close the "agility gap".[347] The work suggests that legislators can produce more comprehensive, adaptable and intuitive governance mechanisms for emerging technologies.[348] Furthermore, the Council looks at particular areas that require new policies in order enhance the potential benefits and emerging technologies.[349] In

[339] Ibid 76.
[340] World Trade Organization 'Electronic Commerce: Declaration' (1998) WT/MIN(98)/DEC/2 available at *https://www.wto.org/english/tratop_e/ecom_e/mindec1_e.htm*, accessed on 13 November 2018.
[341] Ibid 76.
[342] Ibid.
[343] Ibid.
[344] Ibid 183.
[345] Ibid 2.
[346] Ibid.
[347] Ibid.
[348] Ibid.
[349] Ibid.

this regard, WEF has impelled a new set of Global Future Councils specifically focused on the governance of emerging technologies and the potential for new forms of agile governance to guide innovation and the Fourth Industrial Revolution toward positive outcomes for society.[350]

3.4 COUNTRY SPECIFIC TREATMENT OF CRYPTOCURRENCY

3.4.1 DEVELOPED COUNTRIES

In many other developed economies with strong legal frameworks, including Australia, Canada, the EU, Hong Kong, Singapore, the United Kingdom and the United States, the situation is quite different. Regulators in these jurisdictions are now looking to treat a coin that functions like a security in a similar way as it would be under their existing domestic securities laws.[351] Interestingly, Japan, an early adopter of cryptocurrencies and Initial Coin Offerings (ICOs)[352], has more than ten regulated bitcoin exchanges, controlling a large chunk of the global market. [353] Japanese cryptocurrency exchanges have formed a self-regulatory organisation, represented by trade organisation, assisting the Financial Services Agency in creating policy and ensuring the safety and security of cryptocurrency investments.[354] This happened in the wake of a US$500 million theft from a Japanese exchange in January 2018.[355]

Furthermore, the United States, Uniform Regulation of Virtual-Currency Businesses Act (URVCBA) provides a regulatory framework for companies engaging in cryptocurrency

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[350] Ibid.
[351] A Crooke 'ICOs - a crypto conundrum' (2018) International Bar Association, available at *https://www.ibanet.org/Article/NewDetail.aspx?ArticleUid=D176FAAD-1F5E-4107-A94C-CB1B0FF08D34*, accessed on 10 July 2018.
[352] "An initial coin offering is essentially a fundraising tool. Firstly, a start-up can create a new cryptocurrency or digital token via a number of different platforms. Then the company will eventually do a public ICO where retail investors can buy the newly-minted digital tokens. Unlike other fundraising methods such as an initial public offering (IPO) or even venture capital, the investor doesn't get an equity stake in the company. If you buy shares in a public firm for example, you own a small slice of it. Instead, the promise of an ICO is that the coin can be used on a product that is eventually created. But there is also hope that the digital token will appreciate in value itself and can then be traded for a profit." *See*: A Kharpal 'Tokenization: The world of ICOs' *CNBC* 13 July 2018, available at: *https://www.cnbc.com/2018/07/13/initial-coin-offering-ico-what-are-they-how-do-they-work.html*, accessed 16 November 2018.
[353] Ibid 351.
[354] Ibid 116.
[355] Ibid.

transactions.[356] Under the URVCBA, "virtual currency is a digital representation of value that is used as a medium of exchange, unit of account, or store of value but is not a legal tender". [357] According to the Uniform Law Commission, this technology-neutral definition encompasses as many forms of cryptocurrency as possible, with the exception of reward programs for traders or equivalent types of online game platform values.[358] Similarly, regulatory initiatives are underway in the EU to introduce cryptocurrencies in to the rules on money laundering. Accordingly, the fifth AML Directive will widen the rules on AML/CTF to cryptocurrencies, so that the rules will now apply to entities providing services responsible for the holding, storage and transfer of cryptocurrencies. [359] Effectively, henceforward, these bodies will have to plainly identify their consumers and report activities that are suspicious to the relevant authorities.[360]

According to research obtained from the United Nations Department of Economic and Social Affairs, countries are making notable advances in the cryptocurrency sphere.[361] Poland developing a national cryptocurrency called Digital PLN as part of The Polish Blockchain Technology Accelerator project.[362] Germany has included the cryptocurrency Bitcoin, "as a unit of account and a means of payment" has been accepted. [363] Further, Brazil has adopted the use or cryptocurrency as a private parallel currency system. [364] The United Kingdom, on the other hand, has not provided for specific regulation on

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[356] "Virtual-currency business activity means exchanging, transferring, or storing virtual currency; holding electronic precious metals or certificates of electronic precious metals; or exchanging digital representations of value within online games for virtual currency or legal tender." *See*: Uniform Law Commission 'Regulation of Cryptocurrency Around the World' (2018) available at *https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf,* accessed on 28 August 2018.

[357] Uniform Law Commission 'Regulation of Cryptocurrency Around the World' (2018) available at *https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf,* accessed on 28 August 2018.

[358] Ibid.

[359] Ibid 228.

[360] The Directive came into effect on 9 July 2018 and EU member states will have until 10 January 2020 to amend their national laws to conform with the new Directive. *See*: Ibid 228.

[361] Ibid 25.

[362] "The Polish Blockchain Technology Accelerator project is aimed at solving important social and economic problems of public institutions in Poland co-financed by the National Research and Development Centre. The total value of the project is 2.8 million euro." *See*: Polish Accelerator of Blockchain Technology available at: *http://www.akcelerator.tech/en/home-page/,* accessed on 3 February 2019.

[363] Ibid 25.

[364] Ibid 26.

cryptocurrency yet but they are focused on consumer risk and the regulation to ensure consumer protection and anti-money laundering.[365] The Russian Federation is engaged in developing domestic regulations and the USA through the Financial Crimes Enforcement Network is engaging in developing the regulation of cryptocurrency. [366] However, many Asian counties have chosen to exclude the use of cryptocurrency in their financial markets and their legal systems.[367] As safeguard against the financial risks, the government of China banned cryptocurrency exchanges and the issuing of ICO's from operating within its borders in 2017.[368] South Korean followed suit a week later, banning ICOs due increasing risk of financial scams however it has not banned cryptocurrency activities.[369]

In June 2018, the Abu Dhabi Global Market (ADGM) and the International Financial Centre in Abu Dhabi, initiated a regulatory framework for the governance of cryptocurrency activities.[370] The guidance elaborates on ADGM's approach towards the regulation of crypto asset activities and is a useful resource for potential applicants.[371] The ADGM crypto framework codifies the governance, oversight and transparency over crypto asset activities.[372] The structure is intended to:

> "address the risks associated with crypto asset activities, including risks relating to money laundering and financial crime, consumer protection, technology governance, custody and exchange operations."[373]

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[365] Ibid 25.
[366] Ibid.
[367] Ibid.
[368] Ibid 85.
[369] Ibid.
[370] Norton Rose Fullbright 'Cryptocurrency exchanges and custody providers: International regulatory developments' (2018) available at *http://www.nortonrosefulbright.com/knowledge/publications/171005/cryptocurrency-exchanges-and-custody-providers-international-regulatory-developments*, accessed on 21 December 2018.
[371] Financial Services Regulatory Authority 'Guidance – Regulation of Crypto Asset Activities in ADGM' (2018) available at *https://www.iosco.org/library/ico-statements/Abu%20Dhabi%20-%20FSRA%20-%20Guidance%20-%20Regulation%20of%20Crypto%20Asset%20Activities%20in%20ADGM.pdf*, accessed on 22 December 2018.
[372] Supra note 389.
[373] Supra note 390.

Interestingly, in government of Australia, does not regulate cryptocurrencies harshly but rather take a board subjective approach is taken. Accordingly, cryptocurrencies are regulated as a currency and as a financial instrument.[374] However, it is argued that the increasing demand for cryptocurrencies will force the government to take a more defined stance.[375] Businesses supporting cryptocurrency exchanges to fiat are classified as "digital currency exchanges" and must comply with AML/CTF regulations.[376] These AML/CTF obligations[377] only apply to digital currency exchanges that convert digital currencies to fiat currency and not those transactions between digital currencies only.[378]

3.4.2 LESSER DEVELOPED COUNTRIES

The UN General Assembly, declared the Internet to be a human right.[379] The UN also highlighted in 2013 that "more people in the world have access to a mobile phone than basic sanitation".[380] In this regard, smartphones are now providing wider access to individuals across Africa. This has led to enhanced steady growth of the cryptocurrency revolution in Africa with some economists arguing that this innovation will blossom on the continent.[381] It is argued that countries fighting high inflationary issues with their domestic currency are likely adopt cryptocurrencies to resolve such because with their paradigm of

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[374] D Holman & B Stettner 'Anti-Money Laundering Regulation of Cryptocurrency: U.S. and Global Approaches' (2018) Allen & Overy, LLP, available at *http://www.allenovery.com/publications/en-gb/Documents/AML18_AllenOvery.pdf*, accessed on 8 July 2018.

[375] S Jani 'The Growth of Cryptocurrency in India: Its Challenges & Potential Impacts on Legislation' (2018) Parul University, Faculty of Management Studies, available at *https://www.researchgate.net/publication/324770908_The_Growth_of_Cryptocurrency_in_India_Its_Challenges_Potential_Impacts_on_Legislation*, accessed on 17 October 2018.

[376] The law was changed in 2017 to exclude most ICOs from such requirements. For entities that are subject to the law, the Australian Transaction Reports and Analysis Centre has published a compliance guide for providing guidance on how to implement an AML/CTF compliance programme. *See*: Ibid 374.

[377] AML/CTF obligations imposed upon such digital currency exchanges include the requirement to be registered and enrolled with the Australian Transaction Reports and Analysis Centre (AUSTRAC), an AML/CTF program needs to be in place, customer due diligence and "know your customer" measures need to be implemented and conducted, suspicious and other reportable transactions need to be reported to AUSTRAC, and certain relevant records need to be kept." *See*: Supra note 389.

[378] Ibid 370.

[379] United Nations Human Rights Council 'Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development' (2016) available at *https://www.article19.org/data/files/Internet_Statement_Adopted.pdf*, accessed 2 December 2018.

[380] N Davis 'What is the fourth industrial revolution?' World Economic Forum, available at *https://www.weforum.org/agenda/2016/01/what-is-the-fourth-industrial-revolution/*, accessed on 9 March 2018.

[381] Ibid 190.

decentralization, cryptocurrencies offer an alternative to disastrous central bank policies.[382] According to the World Bank, South Sudan, for example with an inflation rate of 102% between September 2016 and September 2017, can potentially benefit from these innovations.[383] Similarly, when Zimbabwe's notorious inflation reached a peak in 2015, necessitating the printing of $100 trillion notes, Zimbabweans were noted to have turned to the adoption of digital currencies such as Bitcoin.[384] African countries transact in Bitcoin "as opposed to their local currencies, which are plagued with hyperinflation," exposes Emmanuel Tokunbo Darko, Vice President of Marketing, for a platform that hosts cryptocurrency tokens, ICOWatchlist.com.[385] According to the GSM Association there will be 725 million mobile phone subscribers in Africa by 2020, which represents that Africans will now have the tools to plug into the cryptocurrency and international trade.[386] The Islamic Republic of Iran, for example, has also begun preparations cryptocurrencies to be used as a legal payment system.[387] Ukraine has initiated legislation that intends to tax cryptocurrencies trading and mining gains.[388]

Notably, cryptocurrency-based remittance services, are mounting in several countries. According to Roa, these services include:

> "Abra, which operates in Malawi and Morocco, GeoPay in South Africa, BitMari in Zimbabwe and London-based Kobocoin, which was launched by Nigerian entrepreneur Felix Onyemechi Ugoji."[389]

In 2013, Kenya launched, "BitPesa" a virtual international remittance facility giving users around the world access to Africa.[390] In addition, Kenya's LocalBitcoins.com cryptocurrency exchange reported trading volumes in excess of $1.8 million as of

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[382] Ibid.
[383] Other countries with double-digit inflation rates include Egypt, Ghana, Malawi, Mozambique, Nigeria, Zambia and Zimbabwe. *See*: Ibid 190.
[384] Ibid 190.
[385] Ibid.
[386] Ibid.
[387] Ibid 24.
[388] Ibid.
[389] Ibid 190.
[390] BitPesa 'New Year – Next Level' available at *https://www.bitpesa.co/blog/new-year-new-investors-next-level/,* accessed 1 August 2018.

December 2017, highlighting the lucrativeness of the business.[391] Riding the wave of change, some governments intrigued by cryptocurrencies and getting engaging in its terrain. Tunisia, for example has issued its own government backed digital currency, the eDinar.[392] Similarly, Senegal is adopting the "eCFA", which it believe could inspire the use of cryptocurrencies in Africa.[393] These national cryptocurrencies evidence the adoption of cryptocurrencies in countries as a viable payment method. It has been argued by industry watchers that cryptocurrencies are a risky, temperamental scheme.[394] Without regulations, cryptocurrencies are a double-edged sword which allow users to recognise gains but a market crash could leave users with no legal recourse for their investments.[395] On the other hand, countries such as Bangladesh, Ecuador and Kyrgyzstan cautiously believe that the negative uses and risks attached to cryptocurrencies outweigh its gains and have therefore undertaken to ban its use in their countries.[396] Some sceptics akin Bitcoin and other cryptocurrencies to a "Ponzi scheme", nevertheless a plethora of Africans are still investing in them.[397] This was evidenced by The Sunday Times of SA, which reported in March 2018 that approximately 27,500 individuals, including South Africans, lost more than $50 million when they were duped into transferring their Bitcoins into an online wallet.[398] The publication called it "*one of the biggest scams to hit South Africa*." [399] Irrespectively, as will be discussed in Chapter 4, the cryptocurrency market in SA is still booming.

Further, in India, the highly uncertain regulatory environment has led to the suspension of many cryptocurrency communities.[400] India's own version of Bitcoin, LaxmiCoin, for

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[391] Ibid 190.
[392] Edinarcoin 'E-Dinar Wallet Android' available at *https://edinarcoin.com/,* accessed 1 August 2018.
[393] Ibid 190.
[394] Financial Intelligence Centre 'Consultation Paper on Crypto Assets' (2019) available at *https://www.fic.gov.za/Documents/Media%20Release%20-%20CONSULTATION%20PAPER%20ON%20CRYPTO%20ASSETS.pdf,* accessed on 16 January 2019.
[395] Ibid.
[396] Ibid 190.
[397] Ibid.
[398] N Nair '$50-million cryptocurrency scam cripples South African investors' *The Sunday Times* 1 March 2018 available at *https://www.timeslive.co.za/news/south-africa/2018-03-01-50-million-crytocurrency-scam-cripples-south-african-investors/,* accessed on 9 March 2018.
[399] Ibid.
[400] Ibid 220.

example, suspended its operations awaiting "regulatory clarifications".[401] Within the Kenyan economy there has been an explosion of cryptocurrency exchanges.[402] Kenya's BitPesa, for example, is a commercial exchange that provides remittance services through virtual currencies from the United Kingdom to Kenya and has been the subject of a US$1.1 million private equity investment.[403] Ghana's first official cryptocurrency, Finchcoin, is offering business opportunities and jobs to numerous Ghanaians.[404] This is possibly an example of the marketplace view that the use of cryptocurrencies in the Africa is prospective to escalate significantly.[405] ICE3x, a South African cryptocurrency exchange, has also launched a Bitcoin processing service in Nigeria.[406] In conjunction with a local service, VoguePay, other entities are also offering payment-processing services to virtual currency users in Nigeria.[407]

In addition, the cryptocurrency Safcoin[408] was launched in South Africa but aims to:

> "become a widely accepted form of payment across the entire African online trading community. We want to boost African trade and simplify the cross-border payment processes between countries by eliminating red tape and bulky transaction processes."[409]

As part of a greater movement, it was launched to give impetus to a digital currency across the continent, much like the Euro, but for Africa.[410] Safcoin anticipates that its increased use will create:

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[401] Ibid.
[402] Ibid.
[403] Ibid.
[404] D Opudo 'IMF Encourages the Use of Cryptocurrency in Africa' *Tech In Africa News* 24 April 2018, available at *http://www.techinafrica.com/imf-encourages-use-cryptocurrency-africa/,* accessed 22 December 2018.
[405] Ibid 220.
[406] Ibid.
[407] Ibid.
[408] Safcoin is an exclusive African cryptocurrency that aims to make digital currency investment easy and accessible for everyone in Africa.
[409] Safcoin 'South Africans have a chance to invest in cryptocurrency for the price of a takeaway meal' *The Sunday Times* 29 October 2018, available at *https://www.timeslive.co.za/sunday-times/business/2018-10-29-south-africans-have-a-chance-to-invest-in-cryptocurrency-for-the-price-of-a-takeaway-meal/,* accessed on 22 December 2018.
[410] Ibid.

> "a versatile ecommerce industry throughout Africa, with a larger business and economic impact[411] through efficient transactions, greater economic cooperation between participating countries and consumer safety in the payment process."[412]

Similarly, Venezuela launched its own cryptocurrency, the "Petro".[413] The Peto seeks to remedy the deep economic crisis of the country caused by hyperinflation.[414] It aims to according to Jani, "advance in issues of monetary sovereignty, to make financial transactions and overcome the financial blockade".[415] For this reason, legislators in the USA believe it may be possible for Venezuela to use the Petro to bypass American sanctions.[416]

3.5 PROPOSED INTERNATIONAL REGULATION

Technological developments unleash radically new socioeconomic dynamics which must be successfully managed if the digital transition of industries and societies is to achieve long - term and wide ranging gains.[417] A robust digital economy also requires innovative kinds of governance, leadership and behaviour.[418] Thus, agile governance frameworks must be a crucial aspect for a successful and sustainable emerging system that enabling communities to envisage and shape the actual impact of future technologies and quickly respond to changing environments. [419] The lack of regulation in the use of cryptocurrencies results in high risk for users devoid of legal recourse.[420] As a result of its global reach where users are able to exploit and infringe laws without account, a

[411] Economic impact is a financial effect that something, especially something new, has on a situation or person. 'Economic impact' available at *https://dictionary.cambridge.org/dictionary/english/economic-impact,* accessed on 5 December 2018.
[412] South African ecommerce revenue is expected to reach $3.131m (about R45.6m) in 2018, growing at a compound annual growth rate of 13.7% to reach $5.239m (R76.3m) in 2022. By then, ecommerce user penetration is expected to hit 43.8%, from 34.8% in 2018. See: Ibid 409.
[413] Petro, its state-run, oil-backed token as a form of legal tender to pay for taxes, fees, and public necessities. *See*: Supra note 90.
[414] Ibid 375.
[415] Ibid.
[416] Ibid.
[417] Ibid 2.
[418] Ibid.
[419] Ibid.
[420] National Treasury of South Africa 'USER ALERT: Monitoring of virtual currency' (2014) available at *http://www.treasury.gov.za/comm_media/press/2014/2014091801%20-%20User%20Alert%20Virtual%20currencies.pdf,* accessed on 02 March 2018.

uniform international regulation should be adopted.[421] This thesis suggests that, inter alia, the FAFT, OECD, UNCITRAL, WEF, World Bank and WTO should work together formulate a model law that governs the use and exchange of cryptocurrencies in order to develop a legislative framework that is wide enough to attend to the regulatory needs of the international community. Australian economist, Usman Chohan, argues that the assortment of dissimilar legislative responses evidences the perplexity of authorities in regulating cryptocurrencies and the inadequate oversight and governance in the disintermediate nature of cryptocurrencies.[422]

A cryptocurrency regulatory proposal submitted to the Parliament of Australia by Dario Di Pardo, suggests that verified registration of cryptocurrency users will remedy the above mentioned issues surrounding illegal activity.[423] The proposal maintains that the anonymity and privacy of transactions will remain intact along with the other cryptocurrency offering however, the registration will allow for a database that can allow government authorities, in a case where there is suspicion of fraud or illegal activity, to access these transactions registered to an individual.[424] It is further proposed that the registration system be a globally accessible central system that will allow all international users to trace their transaction should the need arise.[425] It is noted in the proposal that this system may not be desirable to governments for privacy and security reasons however, this thesis is of the opinion that a global independent central registry system is ideal for monitoring transactions on a global scale.[426] Indeed, this will allow for enhanced privacy and security for users as no one country will have control of the system.

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[421] K Mothokoa *Regulating crypto-currencies in South Africa: The need for an effective legal framework to mitigate the associated risk* (Unpublished University of Pretoria 2017) available at *https://repository.up.ac.za/bitstream/handle/2263/64625/Mothokoa_Regulating_2017.pdf?sequence=1*, accessed on 1 October 2018.
[422] Ibid 24.
[423] Parliament of Australia 'Cryptocurrency Regulation Proposal; available at *https://www.aph.gov.au/DocumentStore.ashx?id=f85346a6-48e1-42b5-81ba-824f9b51a1b3&subId=3019*, accessed on 8 January 2019.
[424] Ibid.
[425] Ibid.
[426] Ibid.

Presently, cryptocurrencies are an adolescent phenomenon; however, as shown in the previous chapters, they are becoming increasingly influential.[427] The legislation and regulation that has existed before the surge of cryptocurrencies, is not likely to be sufficient to efficiently deal with the developing market frameworks. The lack of national consensus on regulatory oversight is presented in the categorization of cryptocurrencies.[428] For example, one nation may classify cryptocurrencies as financial assets or commodities while others may define them as payment mechanisms or virtual goods and services.[429] It is therefore increasingly difficult to judge what the suitable approach to regulate cryptocurrencies. Hence, the director Joachim Wuermeling at Germany's central bank suggests that attempts to regulate cryptocurrencies call for a global initiative as national regulation may prove inadequate to delimit such a large scale phenomenon citing the lack of regulatory powers of nations in issues such as enforceability on a virtual, borderless community.[430] Therefore, he suggests that operative regulation of cryptocurrencies would only be attainable through consorted international cooperation.[431]

The decentralized nature of cryptocurrency "does not easily fit in to traditional regulatory models". Cryptocurrencies abolish the key role of centralised intermediaries, such as currency issuer or payment processors, which would ordinarily be the focus of regulation by using blockchain technologies.[432] In these circumstances, the key question that arises is whether regulation should be centred around the individual users of cryptocurrencies

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[427] C Partanen (2018), "The viability of cryptocurrency in relation to the response of financial institutions and governments", available at: https://www.theseus.fi/bitstream/handle/10024/152122/Christian_Partanen_Bachelors_Thesis.pdf?sequence=1&isAllowed=y accessed on 3 December 2018.

[428] A R Bos *Cryptocurrencies and Regulation, a Master Thesis on the best practices for regulating cryptocurrencies within the EU* (Unpublished Master Thesis University of Leiden 2018) available at https://openaccess.leidenuniv.nl/bitstream/handle/1887/64833/MA%20Thesis%20-%20Arthur%20Bos.pdf?sequence=1, accessed on 9 January 2019.

[429] Ibid.

[430] F Canepa 'Any rule on Bitcoin must be global, Germany's central bank says' *Reuters* 15 January 2018, available at *https://www.reuters.com/article/us-bitcoin-regulations-germany/any-rule-on-bitcoin-must-be-global-germanys-central-bank-says-idUSKBN1F420E,* accessed on 8 October 2018.

[431] Ibid.

[432] International Monetary Fund 'Virtual Currencies and Beyond Virtual Currencies and Beyond: Initial Considerations' available at *https://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf,* date accessed 3 June 2018.

or parties in the system that distribute the currencies.[433] Raphael Auer and Stijn Claessens from the Bank for International Settlements suggest that authorities must firstly clarify the regulatory categorisation of cryptocurrency–related activity in order to address regulatory concerns. [434] They further suggest:

> "for policies to remain effective, and especially in case the market further develops and international arbitrage increases, rules and enforcement will need to be coordinated and enforced across the globe."[435]

This thesis agrees with these submissions as the proposition that the absence of such coordination may lead to ineffective implementation. The argument of Howden that the best organization to handle disputes that may arise from cryptocurrency transactions is the WTO was put forward. [436] He suggests that the WTO is the organisation to develop guidelines for the international community in conjunction with other international organisations. [437] He notes that self-regulatory authorities could be as robust and transparent as possible.[438] Indeed both national and international organizations should adopt legislation and regulatory methods, which might not be laborious and it would not prevent technological innovation or prevent initiatives the damage to the industry.[439] It is essential to be guarded with advancing policies, and not hastily make enact policies that could be considered over arduous and disadvantageous to the international marketplace. It must be acknowledged that implementing a total ban on cryptocurrency-related

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[433] Ibid.
[434] R Auer & S Claessens 'Regulating cryptocurrencies: assessing market reactions' (2018) The Bank for International Settlements. BIS Quarterly Review, available at *https://www.bis.org/publ/qtrpdf/r_qt1809f.htm*, accessed on 22 December 2018.
[435] Ibid.
[436] E. Howden 'The Crypto-Currency Conundrum: Regulating An Uncertain Future' (2015) *Emory International Law Review*. Vol. 29, p. 742 - 796, available at http://law.emory.edu/eilr/_documents/volumes/29/4/Comments/howden.pdf, accessed on 10 June 2018.
[437] Ibid.
[438] Ibid.
[439] L Dixon, S M Gates, K Kapur, S A Seabury and E Talley 'The Impact of Regulation and Litigation on Small Business and Entrepreneurship' (2006) Working Paper. RAND Institute for Civil Justice, available at *https://www.rand.org/content/dam/rand/pubs/working_papers/2006/RAND_WR317.pdf*, accessed on 10 June 2018.

activities in pursuit of a global regulatory guidance may result in the significant reduction of innovative projects and transfer of activities to jurisdictions that are more indulgent.[440]

3.6 CONCLUSION

It seems inevitable that due to its growing volume and potential for illicit payments, cryptocurrencies need to be regulated on both a national and international level.[441] Regulation thus far has been quite controversial as this ICT sphere is unfamiliar and uncharted territory.[442] Thus, the responses between countries vary. Some countries have sought means to regulate the issue, while others have banned it entirely and some are still uncertain of their stance on the issue and are merely observing the *status quo*.[443] Given their global scope, it seems likely that more than one jurisdiction would be interested in the circulation and use of virtual currencies and would have a claim.[444] As, the components of a decentralized virtual currency network would probably be located in more than one jurisdiction, with virtual currencies themselves in an underground digital universe, both within and outside the scope of any particular jurisdiction.[445] Potential cryptocurrency regulation elicit a licensing requirement for those who purchase and sell cryptocurrencies against sovereign currencies.[446] Having briefly outlined some of the regulatory initiatives from certain countries around the world and international regulatory initiatives, the next chapter will determine the South African Government's take on the regulation of cryptocurrency.

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[440] M Chudinovskikh and V Sevryugin 'Cryptocurrency regulation in the BRICS countries and the eurasian economic union' (2019) *BRICS Law Journal,* Volume VI Issue 1 p. 65, available at https://www.bricslawjournal.com/jour/article/view/212, accessed 22 February 2019.
[441] Ibid 84.
[442] Ibid.
[443] Ibid.
[444] Ibid 57.
[445] Ibid.
[446] P Athanassiou 'Impact of digital innovation on the processing of electronic payments and contracting: an overview of legal risks' (2017) European Central Bank, available at *https://www.ecb.europa.eu/pub/pdf/scplps/ecb.lwp16.en.pdf?344b9327fec917bd7a8fd70864a94f6e,* accessed on 15 May 2018.

CHAPTER 4

THE USE AND REGULATION OF CRYPTOCURRENCY IN SOUTH AFRICA

4.1 INTRODUCTION

During 2017, SA, along with most of world, experienced an upsurge in interest and participation in the cryptocurrency and blockchain market.[447] In response to this growing market, the former Minister of Finance, Malusi Gigaba, addressed the treatment of cryptocurrency in SA in the 2018 Budget Speech. He acknowledged the inherent risks relating to its use and cautioned that they pose a serious risk to the income tax and value-added tax systems due to their volatility and uncertainty.[448] Thus, to address these cryptocurrency issues, the former Minister proposed that both the income tax[449] and value-added tax[450] legislation should be amended in order to provide legislative clarity.[451] Furthermore, he urged that the insurgence of cryptocurrencies as a substantial development necessitate that the regulatory regime should be prepared to deal with issues that arise.[452]

The urgency stressed by the Minister's response is necessary as cryptocurrencies do not currently constitute legal tender within SA nor has it been definitively classified as an asset.[453] Therefore, the trade of cryptocurrency currently falls outside the current regulatory ambit and will accordingly operate in an uncertain regulatory environment.[454] Unlike many other African countries (as noted in Chapter three), SA as the infrastructure to support the interaction of cryptocurrencies.[455]

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[447] J Otto, E Van Zyl, C Van Heerden, N Campbell *Guide to The National Credit Act* 2018 available at *https://www.mylexisnexis.co.za/Index.aspx#,* accessed on 17 August 2018.
[448] M Gigaba 'National Budget Speech' (2018) National Treasury South Africa available at *http://www.treasury.gov.za/documents/national%20budget/2018/speech/speech.pdf,* accessed on 3 July 2018.
[449] Income Tax Act 58 of 1962.
[450] Value Added Tax Act 89 of 1991.
[451] Ibid 448.
[452] Ibid.
[453] Ibid 447.
[454] Ibid.
[455] Such as the ITA. *See also*: Ibid 220.

SA's current money lending environment is serviced, predominantly, by the banking industry.[456] However, with increasing developments in technology, the incumbent position of the banks have been challenged by the emergence of technology-based companies seeking to service the money-lending market in direct competition with banking institutions.[457] As a result of advanced mobile technology and data driven applications, financial technology (fintech[458]) companies are able to structure distribution models, products and services in a manner that is able to serve the unbanked population of SA and challenge the current bank practices.[459] The SA fintech regulatory environment, in an particular, is currently in a state of uncertainty with certain fintech's operating on an entirely "unregulated aperture".[460] The lack of regulatory controls on domestic and international transactions poses a threat to SA's cryptocurrency consumers. Legislators and market watchdogs in SA struggle to classify cryptocurrencies, that which elude classic pre-internet definitions in the current framework for electronic trade.[461] Accordingly, SA has initiated a collaborative initiative known as the Intergovernmental Fintech Working Group (IFWG), with domestic regulators and policymakers[462], in order to develop fintech regulation.[463]

This chapter will provide a brief overview of financial technology in SA's and its regulatory institutions. Thereafter, it will discuss SA's tax control legislation, ECTA and consumer

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[456] Ibid 447.
[457] Ibid.
[458] Fintech, a portmanteau of 'financial technology,' is used describe new technology that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners and consumers better manage their financial operations, processes and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones. *See*: 'Fintech' available at *https://www.investopedia.com/terms/f/fintech.asp*, accessed on 9 January 2019
[459] Ibid 447.
[460] J Dewey 'Blockchain & Cryptocurrency Regulation' (2019) Global Legal Insights available at *https://www.ensafrica.com/Uploads/Images/news/GLI-BLCH1SouthAfrica.pdf*, accessed on 10 January 2019.
[461] United Nations Department of Economic and Social Affairs 'Regulating the no man's coin – the rapid rise of cryptocurrencies has regulators scratching their heads' (2017) available at *https://www.un.org/development/desa/en/ news/policy/cryptocurrencies.html*, accessed on 30 March 2018.
[462] The group consists of: The Financial Intelligence Centre, Financial Sector Conduct Authority, the South African Reserve Bank and National Treasury. *See*: Ibid 165.
[463] The IFGW aims to identify the risks and benefits of financial innovation driven by fintech, so that regulators and policymakers can develop appropriate policies and implement effective frameworks that allow for responsible innovation. *See*: Ibid 165.

protection. Finally, it will explore the ability of the domestic legislation in SA dealing with financial services, technology and cybercrime to regulate cryptocurrency.

4.2 FINTECH IN SOUTH AFRICA

4.2.1 INTERGOVERNMENTAL FINTECH WORKING GROUP

The IFWG aims to cultivate innovative solutions to deal with and take advantage of pioneering technologies.[464] The IFWG recognises that the inherent regulatory issue with ICTs is that, they are continuously in flux and morphing into new services.[465] On 16 January 2019, the IFGW released a consultation paper on policy proposals for the cryptocurrency industry to gain legitimacy.[466] The Consultation Paper provides that SA authorities reserve their right to ban[467] the use of cryptocurrencies but at present have not done such.[468] The paper calls for submissions from the public and any impacted persons provide comments on the proposals which will persuade the manner in which cryptocurrency will be regulated in SA.[469] The IFWG 's paper recognised the recommendations made by the FATF[470], discussed in Chapter 3, and notes that the SA regulatory policies would need to confirm with these recommendations.[471]

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[464] Ibid 165.
[465] Ibid.
[466] Ibid 394.
[467] "South Africa does not currently intend to ban the buying, selling or holding of crypto assets, or to ban crypto assets for payments. The decision not to ban the use of crypto assets is, however, based on the existing landscape and current levels of adoption, acceptance and use. South African authorities, therefore, reserve the right to amend their policy stance should crypto assets pose a material risk to their respective regulatory mandates". *See*: Intergovernmental Fintech Working Group 'Consultation paper on policy proposals for crypto assets' (2019) Crypto Asset Regulatory Working Group available at *https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/9037/CAR%20WG%20Consultation%20paper%20on%20crypto%20assets_final.pdf*, accessed 16 January 2019.
[468] G Ralph 'The socioeconomic consequences of banning Bitcoin' *Medium* 11 February 2019, available at *https://medium.com/datadriveninvestor/the-south-african-intergovernmental-fintech-working-groups-consultation-paper-on-policy-proposals-6b5bbdb5d402*, accessed on 11 February 2019.
[469] Ibid 394.
[470] South Africa is a member of the Financial Action Task Force and Eastern and Southern Africa Anti-Money Laundering Group, a regional body of the FATF which aims to support countries in the region to implement the global AML/CFT standards. *See*: The Financial Intelligence Centre 'Who we are' available at *https://www.fic.gov.za/aboutus/Pages/WhoWeAre.aspx*, accessed on 1 December 2018.
[471] Intergovernmental Fintech Working Group 'Consultation paper on policy proposals for crypto assets' (2019) Crypto Asset Regulatory Working Group available at *https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/9037/CAR%20WG%20Consultation%20paper%20on%20crypto%20assets_final.pdf*, accessed 16 January 2019.

The IFWG suggests "that a self-regulatory organisation (SRO) model for regulating" cryptocurrency transactions would have limited success as these systems work ideally in closed ecosystems.[472] The IFWG underlined that firms need to be given the freedom to experiment and develop technologies devoid from the burden and cost that regulation may impose.[473] The IFWG recognised numerous issues that need to be considered when determining how to regulate cryptocurrencies. For example, the classification of cryptocurrencies create a fundamental issue in determining how cryptocurrencies can be regulated.[474] In attempting to classify these currencies, the IFWG suggests that consideration must be had for the activity and purpose of the currency rather than focusing on definitions due to the constant evolving nature of such technologies which may result in regulations becoming quickly obsolete.[475]

In addition, the accreditation of cryptocurrency exchanges could be a starting point for the regularisation of cryptocurrency platforms in order to better monitor quality and creditability of issuers.[476] The IFWG encourages the possibility of threshold regulation to maintain proportional regulation in line with KYC and AML regulations.[477] The IFWG highlighted that the balance between the extent that regulators should take to protect consumers in creating safer financial systems and maintaining innovative freedom is one

[472] Ibid 165.
[473] BitLicence, which required business license for virtual currency activities, issued by the New York State Department of Financial Services, was used to demonstrate the possible unintended consequences of early regulation. In this case, it was claimed that the regulation led to a large number of bitcoin companies ceasing to do business in New York State. See: Ibid 165.
[474] The IFWG maintains the following objectives for the regulation of cryptocurrency objectives for a crypto assets regulatory framework:
a. Ensure the safety and efficiency of the financial system and financial institutions.
b. Ensure consumer and investor protection.
c. Minimise opportunities for regulatory arbitrage.
d. Combat the circumvention of exchange control rules and regulations.
e. Combat illicit financial flows, money laundering and the financing of terrorism.
f. Combat tax evasion and impermissible tax avoidance arrangements.
g. Support financial inclusion efforts and the advancement of technological innovation in a responsible and balanced manner. See: Ibid 394 *and* Ibid 165.
[475] Ibid 165.
[476] It is proposed that an appropriate regulatory framework is developed through three phases: a. Phase 1: Registration process for crypto asset service providers. b. Phase 2: Review of existing regulatory frameworks followed by new regulatory requirements or amendments to existing regulations. c. Phase 3: Assessment of regulatory actions implemented. *See*: Ibid 394 and Ibid 165.
[477] Ibid 165.

of the difficulties in aligning regulatory issues and policy considerations.[478] It was further distinguished that there must be regard for the importance of its impact on the lives of consumers and for the encouragement of innovation while keeping the financial system safe and inclusive.[479] In adopting regulation, the IFWG identified that consumers and developers require education in digital literacy to better enhance the potential expansion of digital markets.[480]

4.2.2 THE FINANCIAL INTELLIGENCE CENTRE

Established by the Financial Intelligence Centre ACT 38 of 2001, the Financial Intelligence Centre (FIC)[481] can be described as South Africa's "national centre for the collection and analysis of financial data".[482] The FIC's role is to protect the integrity of SA's financial system and institutions by combating money laundering and identifying the proceeds of crime and terror financing.[483] In 2018, the FIC issued a report, which provided insights to some methods used by criminals to abuse financial systems. The report looked at the development of cryptocurrencies and potential use for "illicit activities such as money-laundering" and Ponzi-schemes.[484] It accordingly warns consumers to be weary of unverified cryptocurrency exchanges and maintain caution when engaging in cryptocurrency transactions.[485] In attempts to either regularize or ban cryptocurrencies, the FIC as part of the IFWG has been mandated to include cryptocurrencies providers[486]

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[478] Ibid.
[479] Ibid.
[480] Ibid.
[481] Financial Intelligence Centre Act 38 of 2001. The FIC Act introduces a regulatory framework of measures requiring certain categories of business to take steps regarding client identification, record-keeping, reporting of information and internal compliance structures. The Act obliges all businesses to report to the FIC various suspicious and certain other transactions. The FIC uses this financial data and available data to develop financial intelligence, which it is able to make available to the competent authorities and supervisory bodies for follow-up investigations or administrative action. Available at: *https://www.fic.gov.za/Documents/FIC%20Act%20with%202017%20amendments%20(1)%20(1).pdf*, accessed on 1 December 2018.
[482] The Financial Intelligence Centre 'Who we are' available at *https://www.fic.gov.za/aboutus/Pages/WhoWeAre.aspx*, accessed on 1 December 2018.
[483] Ibid 127.
[484] A Ponzi-scheme are fraudulent systems that require people to invest in them with a promise to make large profits in return. They require their investors to advertise their systems as a way of making more money. See also: Ibid 127.
[485] Ibid 127.
[486] Such as cryptocurrency exchanges and wallet providers.

as accountable institutions that are "under a legal obligation to comply with AML/CFT requirements in the FIC Act".[487]

4.3 SOUTH AFRICAN REGULATORY INSTITUTIONS

4.3.1 THE SOUTH AFRICAN RESERVE BANK

The South African Reserve Bank (SARB) is the central bank of SA.[488] It is responsible for the promotion of a sound financial system which is effectively regulated.[489] In preserving such, it considers the potential risks and benefits if technological innovations to maintain a balanced approach.[490] Accordingly, in response to the ample advances in the use of cryptocurrency around the world and by its citizens as a means to conduct transactions outside of government currencies, the SARB in 2014 issued a Position Paper on virtual currencies (the 2014 Position Paper)".[491] The 2014 Position Paper recognised cryptocurrency as "a digital representation of value that can be digitally traded and functions as a medium of exchange, a unit of account and/or a store of value, but does not have legal tender status".[492] In this regard, it is not subject to regulation by the SARB.[493] As such, cryptocurrency consumers in SA have no access to mechanisms or forms of regulatory protection.[494] Furthermore, SARB stated that all activities relating to the use, purchase or trade of cryptocurrencies are carried out at the sole risk of users.[495]

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[487] Ibid 471.
[488] South African Reserve Bank 'Welcome to the South African Reserve Bank' available at *https://www.resbank.co.za/Pages/default.aspx*, accessed 3 February 2018.
[489] South African Reserve Bank 'Media Statement' (2018) available at *https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/8259/SARB%20FinTech%20release%2013%20February.pdf*, accessed on 3 February 2019.
[490] Ibid.
[491] Ibid. *Note*: This paper has been succeeded by the Consultation paper on policy proposals for crypto assets issued by the IFWG.
[492] South African Reserve Bank 'Position Paper on Virtual Currencies' (2014), available at *https://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/Virtual%20Currencies%20Position%20Paper%20%20Final_02of2014.pdf*, accessed on 2 March 2018. *Note*: This paper has been succeeded by the Consultation paper on policy proposals for crypto assets issued by the IFWG.
[493] R Gad, M McCormack & J Roman 'The tax and exchange control implications of cryptocurrency transactions' *De Rebus* 1 August 2018, available at *http://www.derebus.org.za/the-tax-and-exchange-control-implications-of-cryptocurrency-transactions/*, accessed on 18 August 2018.
[494] Ibid 165.
[495] Ibid.

In 2018, SARB established the Financial Technology (FinTech) Programme.[496] SARB's FinTech Programme aims to develop its position on private cryptocurrencies in order to produce an apposite regulatory policy and regime.[497] This process will involve the a collaboration with other regulatory bodies to review of the impact of cryptocurrencies and related technologies on, *inter alia*, exchange control, cybersecurity, financial stability, tax evasion, money laundering and consumer protection.[498] Through this programme, SARB aims to gain a practical understanding of DLTs through an experiment known as "Project Khokha".[499] Project Khokha intends to assess the risks and benefits of DLTs by replicating interbank clearing and settlements and processing wholesale payments through DLT platform Quorum.[500] In addition, according to Jani, the "SARB has selected the blockchain company Bankymoon to test digital currency regulations".[501] As part of the Universal Basic Income projects[502], SA has now launched project UBU[503] to reduce poverty in Africa. "Project UBU was created to":-

> address a fundamental disparity in our economic system in which a significant segment of society is excluded from the economy resulting in poverty, poor education, poor life expectancy and political and social exclusion. This has led to a devaluing of a class of human beings who are excluded from access to resources, and the attendant social damage, which is inflicted on them - lack of opportunities, lack of hope and a constant assault on their dignity.[504]

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[496] D Geral, M Purchase, T Dini, L Dyer, C Franklyn, C Woodin, K Beretta and C Kennedy 'Fintech in South Africa' (2018) *SA Financial Regulation Journal*, available at http://financialregulationjournal.co.za/2018/07/10/fintech-in-south-africa/, accessed on 1 October 2018.
[497] Ibid 489.
[498] Ibid.
[499] Ibid.
[500] Ibid.
[501] Ibid 375.
[502] "The Universal Income Project is devoted to the expansion of economic security and human dignity through the implementation of a universal basic income in America. We build networks and use creative tools to educate, popularize, and organize around this radically common-sense idea." *See*: Universal Income Project available at *https://www.universalincome.org/,* accessed on 9 January 2019.
[503] The world's first fully fledged decentralised currency that delivers free and guaranteed income to all citizens without relying on taxation. *See*: UBU Core Proprietary Limited 'Project UBU' (2019) available at *https://www.projectubu.com/pdf/ProjectUBU_WhitePaper.pdf,* accessed on 8 February 2019.
[504] UBU Core Proprietary Limited 'Project UBU' (2019) available at *https://www.projectubu.com/pdf/ProjectUBU_WhitePaper.pdf,* accessed on 8 February 2019.

Project UBU designed a so-called "token-of-exchange system", which involved transactions "between consumers and suppliers of goods and services, which is issued at no cost and equally to all consumers".[505] The project's basic principle is to use blockchain technology to unlock and freely distribute trapped and inefficient economic assets to any disadvantaged person who chooses to receive them.[506] Further, Project UBU is starting to gain interest across market segments and geographical areas, to such an extent that it may "naturally migrate to a real value token".[507] In particular, projects such as this endeavour to "provide to help people invest and earn money through digital currency in nations that often suffer from poverty and hyperinflated national currencies".[508] SARB is also a part of the IFWG and maintains its support for innovation but urges caution in its use due to potential unregulated risks. However, until regulatory policies are finalised and relevant action is taken, SA residents remain subject to "SA's current exchange control regulations and should not contravene any of those regulations in their dealings with cryptocurrencies".[509]

4.3.1.1 SOUTH AFRICAN RESERVE BANK ACT 90 OF 1989

Interestingly, Section 14 of the South African Reserve Bank Act 90 of 1989"[510], does not permit virtual currencies to be regarded "legal tender in South Africa and should therefore

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[505] Ibid.

[506] A Mbatha 'South Africa launches the first cryptocurrency' *SA Promo Magazine* 6 February 2018, available at *https://www.sapromo.com/south-africa-launches-first-cryptocurrency/13697*, accessed on 8 January 2019.

[507] Ibid 504.

[508] Ibid 375.

[509] Ibid 493.

[510] South African Reserve Bank Act 90 of 1989, section 14 Issue of banknotes and coins

1) *"The Bank shall have the sole right to issue or cause to be issued banknotes and coins in the Republic: ...*
2) *The Bank shall not issue or cause to be issued any banknote of a denomination, in a form or of a material not approved by the Department of Finance.*
3) *....*
4) *The Bank shall not be obliged to make any payment in respect of a torn banknote or a banknote which, in the opinion of the Bank, is mutilated and which may be tendered to it, but may, in its discretion, make a payment in respect of such banknote.*
5) *The Bank shall not issue or cause to be issued any coin made otherwise than in accordance with the prescriptions of section 16(1): Provided that the Bank may after the commencement of the South African Reserve Bank Amendment Act, 1989, continue to issue or cause to be issued coins made in accordance with the provisions of the South African Mint and Coinage Act, 1964 (Act 78 of 1964), as those provisions existed immediately prior to the repeal thereof by the said Amendment Act, until such time as the Minister may in writing direct the Bank to discontinue such issue.*
6) *...*

not be used as" such.[511] Interestingly, SARB provides for a distinction between the concept of electronic money (E-money) and decentralised cryptocurrency, noting that E-money can be exchanged for physical money and is defined in the Banks Act 94 of 1990 and therefore has legal standing.[512] Although citizens are not banned from engaging in the use of cryptocurrency, the National Treasury of South Africa[513] cautions against its use as users bear the risks of unverified transactions.[514]

4.3.1.2 CURRENCY AND EXCHANGES ACT 9 OF 1933

The Currency and Exchanges Act 9 of 1933 principally govern Exchange Control in SA[515] and the Exchange Control Regulations[516] issued under the Act.[517] Currently, in SA, for a person to transfer funds offshore, an application for approval must be made through authorised dealers[518] such as banks.[519] The purpose of these regulations are to ensure that funds are not transferred outside of South Africa without approval in order to maintain the country's fiscal.[520] An issue arises in the face of cryptocurrency transactions as essentially users can transact outside of these regulatory restriction due to the user anonymity. In this regard, any person wishing to move funds offshore for the purposes of buying or selling cryptocurrencies does not necessarily have to make an application for exchange approval through authorised dealers. These currencies accordingly operate outside of regulatory restrictions. It follows that, the cryptocurrency framework needs to be adapted to ensure compliance with purport and purpose of exchange control regulations.

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7) ..."

[511] Ibid 492.

[512] Ibid.

[513] Responsible for financial stability and soundness, market conduct, financial inclusion, market efficiency and integrity, and anti-money laundering – and private industry players in South Africa.

[514] Ibid 420.

[515] Currency and Exchanges Act 9 of 1933.

[516] Exchange Control Regulations 1961.

[517] Ibid 460.

[518] "Authorised Dealers" are South African commercial and merchant banks, appointed by the Minister of Finance, to buy and sell foreign exchange, within the limits and subject to conditions prescribed by the Treasury and the SARB. Authorised dealers act on behalf of their customers and they are not agents of the SARB. *See*: Global Legal Insights 'Blockchain & Cryptocurrency Regulation 2019: South Africa' (2019) available at *https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/south-africa*, accessed on 22 January 2019.

[519] Ibid 460.

[520] Ibid.

4.3.2 SOUTH AFRICAN REVENUE SERVICE

In the response to continuous and rapid e-commerce advances, the 1997 Katz Commission Report, recognised that there is a need to protect South Africa's tax base noting that the manner in which goods and services are transmitted electronically can lead to erosion of the tax base.[521] The Commission recommended that South Africa should not seek to pioneer a whole new tax regime to cope with the changes brought about by e-commerce, but that it should internationalise its laws affecting international trade and investment.[522]

The introduction of cryptocurrencies have now created new frameworks evolving e-commerce mechanisms that have vast potential in tax evasion. In this regard, a draft Taxation Laws Amendment Bill (draft TLAB)[523] has been published which seeks to clarify the existing provisions dealing with cryptocurrencies in the South African tax law by proposing various amendments to the Income Tax Act 58 of 1962 (ITA)[524] and the Value Added Tax Act 89 of 1991 (VAT Act)[525].

The South African Revenue Service (SARS) is responsible for the collection of all revenue due to the government of SA.[526] Its objective is to ensure optimal compliance with tax and customs legislation in order to facilitate legitimate trade and protect the economy of SA.[527] It is governed by various acts that give it enforcement rights.[528] On 18 September 2014

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[521] M M Katz *Commission of Inquiry into Certain Aspects of the Tax Structure of South Africa The Fifth Interim Report of the Commission of Inquiry into Certain Aspects of the Tax Structure of South Africa* (1997) 31, available at *http://www.treasury.gov.za/publications/other/katz/5.pdf,* accessed on 12 January 2019.
[522] Ibid
[523] Draft Taxation Laws Amendment Bill (2018).
[524] Ibid 449.
[525] Ibid 550.
[526] South African Revenue Service *South African Revenue Service Annual Report* (2017) available at *https://www.gov.za/sites/default/files/gcis_document/201712/sars-ar-22-annual-report-2016-2017.pdf,* accessed on 19 June 2018.
[527] Ibid.
[528] Tax Administration Act, 2011, Income Tax Act, 1962, Customs and Excise Act, 1964, Value-Added Tax Act, 1991, Estate Duty Act, 1955, Transfer Duty Act, 1949, Unemployment Insurance, Contributions Act, 2002, Skills Development Levies Act, 1999, Mineral and Petroleum Resources Royalty and Administration Acts, 2008, Securities Transfer and Administration, Tax Acts, 2007, Diamond Export Levy

the SARB, National Treasury, SARS, the Financial Sector Conduct Authority[529] and the Financial Intelligence Centre issued a joint alert to caution the public on the risks associated with the use of virtual currencies for transactions and investments.[530] In the same year, the Davis Tax Committee released its first interim report on Base Erosion and Profit Shifting (BEPS) which exhorted National Treasury to "consider the potential impact of virtual currencies on tax compliance and to look to international developments" when designing a suitable approach for SA.[531] Revenue authorities are understandably eager to regulate gains made by virtual currency holders but up until earlier this year, SARS did not provide explicit guidelines on how virtual currency gains and losses would be taxed. In a media release on 6 April 2018, SARS set out their stance on the tax treatments of cryptocurrency. Subsequently, the draft TLAB was published on 16 July 2018 for public comment. For the first time, legislative provisions may be introduced which will govern the way South African taxpayers should pay tax on their cryptocurrency transactions.

A tax authority, such as SARS, is very dependent on information provided by third parties to verify taxpayer disclosure and to manage tax risks and compliance.[532] Without a third party to hold to account to provide information on cryptocurrency transactions, SARS can only rely on the taxpayer's disclosure, or audits that are resource intense.[533] To introduce regulations, SARS would need to identify accountable entities that will be required to report on cryptocurrency transactions, such as the banks acting as authorised dealers for the SARB do so currently.[534] This thesis is of the view that without such accountable

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Administration, Acts, 2007, Merchant Shipping (International Oil Pollution Compensation Fund) Administration Act, 2013, Employment Tax Incentive Act, 2013, Merchant Shipping Administration & Contribution Acts, 2013. *See*: Ibid 526.

[529] Then known as the Financial Services Board.

[530] South African Reserve Bank 'Review of the National Payment System Act 78 of 1998' (2018), available at *http://www.treasury.gov.za/publications/other/NPS%20Act%20Review%20Policy%20Paper%20-%20final%20version%20-%2013%20September%202018.pdf*, accessed 7 October 2018.

[531] Davis Tax Committee 'Davis Tax Committee: Second Interim Report On Base Erosion And Profit Shifting (BEPS) In South Africa: Introduction' (2018), available at *http://www.taxcom.org.za/docs/New_Folder3/2%20BEPS%20Final%20Report%20-%20Introductory%20Report.pdf*, accessed on 7 October 2018.

[532] South African Institute of Professional Accountants 'Accounting For Cryptocurrency' (2018) O*fficial Journal of the South African Institute of Professional Accountants*, Issue 32, p. 10 – 12, available at https://www.saipa.co.za/wp-content/uploads/2018/06/Professional-Accountant_32_LOW.pdf, accessed on 8 January 2019.

[533] Ibid.

[534] Ibid.

entities, SARS will be unable too adequately monitor the purchase, sale and transfer of cryptocurrency.

4.3.2.1 INCOME TAX ACT NO 58 OF 1962

As alluded to above, the ITA is responsible for the monitoring and implementation of the tax policies in South Africa. SARS is of the view that while cryptocurrencies do not constitute currency, they can be valued to determine an amount that has been received or accrued in terms of the gross income definition for purposes of income tax.[535] In a recent question and answer released by SARS on cryptocurrencies, SARS affirms that cryptocurrencies are not considered a legal tender however; cryptocurrency transactions are subject to the general principles of SA tax law and taxed accordingly on a case by case basis.[536] The document also confirms that to the extent that 'miners' mine cryptocurrency as a trade, such persons will be liable for income tax, if the "total taxable income received exceeds the tax threshold for the financial year".[537] In addition, cryptocurrency received for goods sold and services rendered by individuals or a business also form part of a taxpayer's normal income and taxed accordingly.[538] It is also noted that deductions that comply with the general income tax principles are allowed where such expenditure was incurred in the production of the trade.[539]

Despite not being recognised as legal tender and SARS announcing that cryptocurrency is to be regarded as an asset for income tax purposes or trading stock, it would appear that the receipt of cryptocurrency is treated as normal income and taxed accordingly. Thus, failure to declare cryptocurrencies or treating them in accordance with the law will result in penalties[540] in accordance with the Tax Administration Act 28 of 2011.[541] According to the South African Institute of Professional Accountants, cryptocurrencies

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[535] A Staude & A Greeff 'Cryptocurrencies and SARS' (2018), Shepstone & Wylie, available at *http://www.wylie.co.za/articles/cryptocurrencies-and-sars/*, accessed on 23 August 2018.
[536] South African Revenue Service 'Cryptocurrencies Question & Answer' (2018) available at *http://www.sars.gov.za/AllDocs/Documents/Legal/FAQs%20-%20Cryptocurrencies.pdf*, accessed on 22 August 2018.
[537] Ibid.
[538] Ibid.
[539] Ibid.
[540] Ibid.
[541] Tax Administration Act 28 of 2011.

also appear to meet the definition of an intangible asset, as they are identifiable, can be sold, exchanged or transferred individually, are not cash, a non-monetary asset and have no physical form and accordingly can be taxed as such.[542]

In reference to cryptocurrency mining activities, it is recognised that the transfer of ownership results in immediate accrual or receipt.[543] Under the ITA, it is proposed that cryptocurrencies are included in the definition of 'financial instrument'.[544] Moreover, it is also proposed to amend section 20A of the ITA, to include the acquisition or disposal of cryptocurrencies under the assessed loss ring-fencing provisions.[545] If the proposal is accepted, cryptocurrency losses will be ring-fenced for losses to be set off against income earned from the trade of cryptocurrencies and not from any other trade.[546]

As mentioned above, due to the anonymity of transactions, it appears that compliance in this respect still remains unenforceable. SARS has assured the public that they have wide collection powers in order to enforce compliance however these methods have not been made public.[547] At present it would appear that there are not defined methods to publicly determine who owns cryptocurrencies and exactly how many they hold. SA resident taxpayers are therefore subject to income tax on their receipts or accruals of cryptocurrencies that are considered gross income for income tax purposes. In this regard, in order for an amount to be included in "gross income", such amount must comply with all the requirements of the definition of "gross income[548]" are provided for in section 1 of the Act. The current tax system requires taxpayers to voluntarily declare their cryptocurrency gains or losses as part of their taxable income.[549] This thesis is of the view

[542] Ibid 532.
[543] Ibid 535.
[544] Ibid 460.
[545] Ibid.
[546] Ibid.
[547] Ibid 536.
[548] Section 1 of the ITA, in the case of any resident, the total amount, in cash or otherwise, received by or accrued to or in favour of such resident;…during such year or period of assessment, excluding receipts or accruals of a capital nature..
[549] Cliffe Dekker Hofmeyr 'Treasury includes cryptocurrency in draft tax legislation' (2018) Tax & Exchange Control Alert, available at *https://www.cliffedekkerhofmeyr.com/en/news/publications/2018/Tax/tax-alert-27-july-treasury-includes-cryptocurrency-in-draft-tax-legislation.html,* accessed on 13 November 2018.

that such a system is untenable as it operates on the presumption that users are law abiding citizens which, as evidenced in Chapter 2, they are not.

4.3.2.2 VALUE ADDED TAX ACT 89 OF 1991

Section 2 of the VAT Act, is be amended to include "the issue, acquisition, collection, buying or selling or transfer of ownership of any cryptocurrency in the description of 'financial services'".[550] The draft TLAB proposes amendments to VAT legislation in an attempt to address the administrative difficulties encountered in the VAT system.[551] In respect of cryptocurrencies, the amendment proposed seeks to clarify the existing provisions dealing with cryptocurrencies in the South African tax law by adding cryptocurrencies under section 2 of the VAT Act, dealing with Financial Services.[552] If this planned change in is accepted, all dealings in cryptocurrencies are going to be exempt from VAT in terms of section 12 of the VAT Act.[553] In the meantime, until such time as the draft TLAB is enacted, the amendments are merely proposals and not yet law. This thesis is of the opinion that the TLAB enactment is imminent and users should prepare accordingly.

4.4 ELECTRONIC COMMERCE IN SOUTH AFRICA

In 2013, Luke McKend, then country director of Google South Africa, highlighted at a uAfrica ecommerce conference, that one of the key challenges faced by South African online retailers is to provide a stable trustworthy and secure service to gain loyal customers.[554] In 2017, the e-commerce marketplace was said to be booming with recognised revenue of R10 billion according to Visa digital solutions Senior Director for in sub-Sahara Africa Geraldine Mitchle.[555] This has been attributed to the increase in

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[550] Ibid 460.
[551] Draft Taxation Laws Amendment Bill (2018).
[552] Draft Taxation Laws Amendment Bill (2018).
[553] Edward Nathan Sonnenberg 'Regulatory reform-effect on electronic payments and monitoring' (2018) available at *http://www.tci-sa.co.za/wp-content/uploads/2018/11/Ina_Meiring_ENS_Africa.pdf,* accessed on 29 October 2018.
[554] Q Bronkhorst 'The future of e-commerce in SA' *BusinessTech* 15 September 2013, available at *https://businesstech.co.za/news/internet/45736/the-future-of-e-commerce-in-sa/,* accessed on 28 October 2018.
[555] C Smith 'How ecommerce is exploding in SA' *Fin24* 16 March 2018, available at *https://www.fin24.com/Economy/how-ecommerce-is-exploding-in-sa-20180316,* accessed on 28 October 2018.

consumer confidence in online transactions, trust in internet retailers and growth in mobile phone users. [556]

In 2018, Telcoin submitted a request to the South African government in an appeal to update the ECA Bill for:

> "the inclusion of mobile money into the ECA[557] to leverage the use of mobile phones for financial inclusion in SA; support to set up Proof of Concepts to look into how cryptocurrency and mobile money can be used to eradicate poverty in SA; determination of the current regulatory frameworks and the requirements for enabling the use of cryptocurrency/mobile money transactions; establishing a supportive regulatory framework that will increase financial inclusion, create jobs, establish labs and hubs for education and use of these newer technologies".[558]

This thesis agrees with the sentiments outlines by Telcoin. As highlighted in Chapter 2, the use of cryptocurrencies have a notable impact that can revolutionize international trade. This may even lead to the fulfillment of the UN Sustainability Development goals as discussed in Chapter 3.

4.4.1 THE ELECTRONIC COMMUNICATIONS AND TRANSACTIONS ACT

The facelessness and anonymity of contracting parties coupled with concerns about confidentiality and security create a lack of trust in electronic transactions. [559] To address this problem, the Electronic Communications and Transactions Act[560] (ECTA) aims to "create legal certainty and confidence of electronic transactions".[561] As such, the ECTA has evolved the way we communicate and introduced various regulatory safeguards

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[556] Ibid.
[557] Electronic Communications Amendment Bill.
[558] L Cassie 'Submission of Written Comments by Telcoin Pte Ltd on The Electronic Communications Amendment Bill' (2018) Telcoin Pte Ltd, available at *https://www.ellipsis.co.za/wp-content/uploads/2018/03/Telcoin-ECA_Bill_2017.pdf,* accessed on 9 July 2018.
[559] W Jacobs 'The Electronic Communications and Transactions Act: consumer protection and Internet contracts' (2014) *SA Mercantile Law Journal*, Volume 16, Issue 4, p. 556 – 567, available at https://journals.co.za/content/ju_samlj/16/4/EJC54133?fromSearch=true, accessed on 17 August 2018.
[560] Electronic Communications and Transactions Act No. 25 of 2002.
[561] Ibid 559.

protecting and encouraging electronic transactions.[562] Its purpose is to facilitate and give legal effect to electronic communications and transactions in South Africa.[563] It aims inter alia to:-

- "promote legal certainty and confidence in respect of electronic communications;
- develop a safe, secure and effective environment to conduct and use electronic transactions; and
- promote the development of electronic transactions services which are responsive to the needs of users and consumers".[564]

The ECT Act recognises the legitimacy of agreements concluded wholly or in part by data messages[565] (s22 (1)).[566] Accordingly, electronic agreements have the same legal standing as traditional paperback contracts. In this regard, the ECTA confers various consumer[567] protection rights in order to give effect to the objectives" of the ECTA.[568] Chapter VII of ECTA does apply to all electronic transactions (s42).[569] The Act also places obligations for web site compliance on the supplier to comply in order to be in accordance with the ECTA.[570] Any failure to fulfil such obligations may render the supplier civilly liable towards the consumer.[571] A supplier must create its website in such a way that the consumer can "review the entire electronic transaction, correct any errors and withdraw

[562] Ibid.
[563] Ibid 560 Preamble.
[564] Ibid.
[565] The MLEC defines a data message as "information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy". *See*: UNCITRAL Model Law on Electronic Commerce (1996) with additional article 5 bis as adopted in 1998 available at *http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html*, accessed on 17 October 2018.
[566] S L Snail 'An overview of South African e-consumer law in the context of the Electronic Communications and Transactions Act' (2015), *Juta's Business Law*, Volume 15, Issue 2, Jan 2007, pages 54 – 60, available at https://journals.co.za/content/ju_jbl/15/2/EJC52594?fromSearch=true, accessed on 17 August 2018.
[567] A consumer is defined as any natural person who enters into or intends entering into an electronic transaction with a supplier as the end user of goods or services offered by that supplier' (s1). *See*: Ibid 560.
[568] Ibid 566.
[569] Ibid 560.
[570] Ibid 566.
[571] C Erasmus 'Consumer protection in international electronic contracts' (2011) University of the North West available at *https://dspace.nwu.ac.za/bitstream/handle/10394/6917/ErasmusC.pdf?sequence=2*, accessed on 8 July 2018.

from the transaction before the order is finally placed" (s43(2)).[572] Businesses engaged in e-commerce should use payment systems that are sufficiently secure with reference to accepted technological standards at the time of the transaction and the type of transaction concerned (s43(5)).[573]

Interestingly, the ECTA has succeeded in covering all internationally accepted general principles concerning e-commerce.[574] Even when contracting with a seller in a foreign jurisdiction with a different legal system (s47), consumers will be granted "the protection of all the rights contained in Chapter VII of ECTA".[575] As discussed in the previous chapter, the MLEC applies to information, whether contractual or not, in the form of a data message used in the context of commercial undertakings. Article 5 of the Model Law on Electronic Commerce provides that information should not be denied validity, legal effect or enforceability merely because it is in the form of a data message. This is transported into section 11 of the ECTA, which recognises that "information is not without legal force and effect merely on the grounds that it is wholly or partly in the form of a data message".[576] In this regard, cryptocurrency transactions can be possibly be regarded as data messages having legal recourse under section 11 of the ECTA. In addition, for a contract to be valid in terms of the ECTA it must satisfy certain requirements.[577]

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[572] Ibid 566.
[573] Ibid 560.
[574] Ibid 571.
[575] This provision does not survive scrutiny in international law, however, it must be revised to avoid legal uncertainty. See: Ibid 571 and Ibid 566.
[576] Ibid 560 section 11: Legal recognition of data messages

> *(1) Information is not without legal force and effect merely on the grounds that it is wholly or partly in the form of a data message.*
> *(2) Information is not without legal force and effect merely on the grounds that it is not contained in the data message purporting to give rise to such legal force and effect, but is merely referred to in such data message.*
> *(3) Information incorporated into an agreement and that is not in the public domain is regarded as having been incorporated into a data message if such information is-—*
> *(a) referred to in a way in which a reasonable person would have noticed the reference thereto and incorporation thereof; and*
> *(b) accessible in a form in which it may be read, stored and retrieved by the other party, whether electronically or as a computer printout as long as such information is reasonably capable of being reduced to electronic form by the party incorporating it.*

[577] M Heyink 'Electronic Signatures Guideline' (2014) Law Society of South Africa. Version 1, available at *http://www.lssa.org.za/upload/documents/LSSA%20Guidelines_Electronic%20Signatures%20for%20South%20African%20Law%20Firms_October%202014.pdf*, accessed on 10 September 2018.

This leaves the court in a situation it is uncertain as to which laws to apply to certain disputes and in which forum. It is noted that:

> "[o]ne of the most vexed legal problems in the regulation of international electronic commerce relates to the issue of jurisdiction".[578]

Cryptocurrency is one such system that also results in jurisdictional limitations. This thesis of the opinion that due to blurred cross border lines, the best mechanism to address such jurisdictional concerns and provide guidance thereon are, *inter alia*, the international organisations as discussed in Chapter 3.

4.5 CONSUMER PROTECTION IN SOUTH AFRICA

Consumer protection is of paramount importance in South Africa where consumers risk exploitation as a result of inequalities of bargaining powers between businesses and consumers. This led to the birth of the Consumer Protection Act 68 of 2008 (CPA).[579] However, this act does not mitigate transactions between individuals. Due to the peer-to-peer nature of cryptocurrencies, their regulation falls outside of the ambit of consumer protection in South Africa. The cryptocurrency system does not have mechanisms available for consumers for measuring exchange liquidity and related risks, such as loss of value bankruptcy, fraud, misappropriation of funds, and vulnerability to systems breaches, hacks or Ponzi schemes.[580] This lack of quantifying mechanisms creates transparency issues and unreliability in cryptocurrency systems.[581] Furthermore, the lack of government support as a lender results in consumers being left with insufficient consumer protection.[582] This accordingly calls for the extension of the CPA in line with new digital economies. In line with the history of the disparities of the past, regulatory authorities have a vital role to ensure that regulations safeguard the consumers.[583] The consumer protection laws must form a primary basis of the legal and regulatory

[578] Ibid 566.
[579] Consumer Protection Act 68 of 2008.
[580] Law Library of Congress 'Regulation of Cryptocurrency Around the World' (2014) available at *https://www.loc.gov/law/help/cryptocurrency/world-survey.php,* accessed on 13 November 2018.
[581] Ibid.
[582] Ibid 421.
[583] OECD 'Draft G20 High Level Principles on Financial Consumer Protection for Public Consultation' available at *http://www.oecd.org.daf/fin/financial-markets/48473101,* accessed on 2 September 2018.

frameworks.[584] The inclusion of cryptocurrencies in the CPA will protect consumers from dubious businesses.[585] Additionally, such protective mechanisms may require businesses to reveal information that helps the consumer make informed decisions about their transactions and hold businesses accountable for any wrongdoing.[586]

4.6 LEGISLATION DEALING WITH FINANCIAL SERVICES AND TECHNOLGY IN SOUTH AFRICA

4.6.1 THE NATIONAL CREDIT ACT NO.34 OF 2005

Given the extensive and disruptive effects of fintech, a current focal point of contention and debate is whether the prevailing regulatory framework of the National Credit Act No.34 of 2005 (NCA)[587] is sufficient to meet the changing behaviours and needs of credit consumers.[588] This determination queries whether the NCA can effectively regulate the industry disruptors and protect consumers of fintech-driven credit products and services such as "peer-to-peer lending".[589] The NCA requires licensing in the credit-lending environment, and does not cover fintech companies and products in every instance.[590] Under the current framework, no licensing requirements expressly apply to fintech companies in South Africa.[591] A cryptocurrency credit program for example would not also not elicit any requirements registration under the NCA.[592] However, they must be licensed if they are providing fintech products or services that are essentially analogous with financial products or services, which are regulated.[593] Building upon these frameworks, regulation regarding cryptocurrency business can also follow such licensing requirements in order to provide accountability and regularisation. A key concern prevalent in the unbanked segment of credit consumers is limited access to credit or formal identity

[584] Ibid.
[585] Ibid 421.
[586] Ibid.
[587] National Credit Act No.34 of 2005.
[588] Ibid 447.
[589] It is commonly described as the utilisation of technology and internet-driven platforms to connect lenders and borrowers with the intention of facilitating loans from one individual to another without the intervention of a third party intermediary. *See*: Ibid 447.
[590] Ibid 496.
[591] Ibid.
[592] Ibid.
[593] Examples are the insurance, financial services and credit lending industries. *See*: Ibid 496.

requirements of consumers, which prevent them from being able to adequately access the credit market.[594] As identified in Chapter two, the blockchain technology has created a decentralised network of lenders and borrowers essentially facilitating global lending of cryptocurrency without third party intermediaries thereby circumventing traditional credit limitations.[595]

Despite a core objective of the NCA being the promotion of an accessible credit market, it seems that the National Credit Act does not currently cater for the impact of fintech on the credit market. The disjunction between the NCA, which is designed to regulate a pre-fintech credit market and the developing fintech-driven credit industry, may potentially result in regulation. [596] This regulation may have a restrictive or adverse impact on the development of credit fintech and uncertainty as to the extent to which fintech distribution models, products and services within the credit market are regulated by the provisions of the NCA. [597] A recent example of the tension between the NCA and the fintech credit industry is the removal of the maximum threshold amount which has had the effect of potentially rendering participant lenders in peer-to-peer lending platforms as credit providers, requiring registration under the NCA irrespective of the amount lent.[598] As cryptocurrency does not currently constitute legal tender within South Africa or been definitively classified as an asset, the lending of cryptocurrency currently falls outside the regulatory ambit and protection of the NCA and will accordingly operate in an uncertain regulatory environment. [599]

4.6.2 THE FINANCIAL MARKETS ACT 19 OF 2012 AND THE FINANCIAL ADVISORY AND INTERMEDIARY SERVICES ACT 37 OF 2002

The Financial Markets Act 19 of 2012 (FMA) and The Financial Advisory and Intermediary Services Act 37 of 2002 (FAIS) “regulate the facilitation of financial services and securities

[594] Ibid 447.
[595] Ibid.
[596] Ibid.
[597] Ibid 587.
[598] M Fisher-French ‘Credit act changes target loan sharks’ *Fin24* 14 November 2016, available at https://www.fin24.com/Money/Debt/credit-act-changes-target-loan-sharks-20161111, accessed on 19 June 2018.
[599] Ibid 447.

services[600] respectively in South Africa".[601] It is noted that while cryptocurrencies have certain common features with securities such as the outlay of capital to acquire property or assets, the definition provided for in the act does not postulate for cryptocurrency as a security nor does the Registrar of Securities Services consider cryptocurrency similar to those in the FMA.[602] This is due to the fact that cryptocurrencies lack the main feature contained in securities which allow holders of securities to claim against the issue in the event of any issues.[603] As discussed in Chapter 2, cryptocurrencies are mined and not issued by a facilitator. In addition, cryptocurrencies are not classified as financial products in terms of FAIS. Accordingly, the use of cryptocurrencies are not regulated by both the FMA and FAIS. However, this thesis is of the view that these definitions can be extended to include the scope of digital financial instruments such as cryptocurrencies which will allow consumers to be protected in their use of these products. The nature and use of these currencies are in line with existing financial security models and therefore can be addressed by such existing legislature.

4.6.3 CYBERCRIMES AND CYBERSECURITY BILL

Francois Groepe, SARB Deputy Governor, stated in his opening address at the Innovation and Cybersecurity Conference that:

> "we cannot engage in conversations about the remarkable amount of innovation taking place in the financial services industry without addressing the cyber-threats that we also face."[604]

Due to its framework, cryptocurrencies are susceptible to being lost or stolen either due to the device/computer on which they are stored being lost, or by the device being hacked. At present there is no legislation, regulation, or even centralised entity in place to provide some protection for those who have had their cryptocurrency stolen or their digital wallets

[600] Financial service" is defined to mean the furnishing of "advice" and/or the rendering of "intermediary services" in respect of a financial product. *See*: Ibid 460.
[601] Ibid 460.
[602] Ibid.
[603] Ibid.
[604] Ibid 49.

hacked. [605] Furthermore, South Africa does not have a regulatory framework solely for cybersecurity.[606] However, in order to deal with potential internet related crimes and evolving security breaches, South Africa introduced the Cybercrimes and Cyber Security Bill in an attempt to curtail cybercrimes.[607] The increase in cybercrimes and the emergence of cryptocurrencies necessitates the development of proficient regulatory frameworks.[608]

4.7 CONCLUSION

In order for the government to reach its goal of transforming South Africa in to "an inclusive and innovative digital and knowledge society" emphasis needs to be placed on establishing an effective monetary framework that will change the lives of everyday people by using simplified cutting edge financial technologies.[609] In this regard, the introduction and uptake of digital currency has led to wealth creation for millions of individuals in the past several years and has the potential to satisfy such transformational needs.[610] However, the use and benefits of advanced technologies such as cryptocurrencies remain largely in the hands of the technically advanced as there is a

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[605] Ibid 532.
[606] Ibid 496.
[607] Cybercrimes and Cyber Security Bill: To create offences and impose penalties which have a bearing on cybercrime; to criminalise the distribution of data messages which is harmful and to provide for interim protection orders; to further regulate jurisdiction in respect of cybercrimes; to further regulate the powers to investigate cybercrimes; to further regulate aspects relating to mutual assistance in respect of the investigation of cybercrime; to provide for the establishment of a 24/7 Point of Contact; to further provide for the proof of certain facts by affidavit; to impose obligations on electronic communications service providers and financial institutions to assist in the investigation of cybercrimes and to report cybercrimes; to provide for the establishment of structures to promote cybersecurity and capacity building; to regulate the identification and declaration of critical information infrastructures and measures to protect critical information infrastructures; to provide that the Executive may enter into agreements with foreign States to promote cybersecurity; to delete and amend provisions of certain laws; and to provide for matters connected therewith. Available at: http://www.justice.gov.za/legislation/bills/CyberCrimesBill2017.pdf
[608] Y Turianskyi 'Balancing Cyber Security and Internet Freedom in Africa' (2018) The South African Institute of International Affairs available at *https://www.saiia.org.za/wp-content/uploads/2018/02/OP-275-GAP-Turianskyi-FINAL-WEB.pdf*, accessed on 1 December 2018.
[609] M J Manda & J Backhouse 'Digital transformation for inclusive growth in South Africa: challenges and opportunities in the 4th industrial revolution' (2017) Department of Information Systems, University of the Witwatersrand, available at *https://www.researchgate.net/publication/318395119_Digital_transformation_for_inclusive_growth_in_South_Africa_challenges_and_opportunities_in_the_4_th_industrial_revolution*, accessed on 19 June 2018.
[610] B Marr 'A Short History Of Bitcoin And Crypto Currency Everyone Should Read' *Forbes* 6 December 2017, available at *https://www.forbes.com/sites/bernardmarr/2017/12/06/a-short-history-of-bitcoin-and-crypto-currency-everyone-should-read/#1b57edda3f27*, accessed in 25 August 2018.

deficiency in widespread education on these topics. [611] This thesis suggests that this could change with government support and a promising regulatory framework that will develop the potential benefits of cryptocurrency to bring wealth to a vast number of less fortunate South Africans.[612]

Despite comments by the government and proposed legislative amendments by the National Treasury, SARS and SARB, the use of cryptocurrencies in South Africa is still very uncertain.[613] Cryptocurrency users and those interested in engaging in such transactions are therefore cautioned to seek advice from experts to determine the potential effects of their transactions.[614] In the tax sphere, taxpayers who are unsure about the tax implications of cryptocurrency transactions and how to declare cryptocurrency income or expenditure may seek SARS direction through channels such as private binding rulings or tax experts.[615] This chapter demonstrated there are regulatory advances underway in South Africa regarding cryptocurrencies. In respect of taxation, this chapter identified that, according to SARS, the current provisions are broad enough to account for the taxation of income received and expenditure incurred. However, other legislation regarding financial instruments, credit lending and consumer protection appear to fall short in the reach of their regulations to account for cryptocurrencies.[616] The proposed legislation by SARS and the potential wide scope of the ECTA allows users to potentially seek legal recourse in the use of digital currency. In addition, the NCA, CPA and other financial security legislature can be extended to included cryptocurrency transactions. The next chapter will provide recommendations for regulations and highlight of the concepts discussed in this thesis.

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[611] Ibid 105.
[612] Ibid 421.
[613] Ibid 493.
[614] Ibid.
[615] The South African Revenue Service 'SARS's stance on the tax treatment of cryptocurrencies' (2018) available at *http://www.sars.gov.za/Media/MediaReleases/Pages/6-April-2018---SARS-stance-on-the-tax-treatment-of-cryptocurrencies-.aspx*, accessed on 19 December 2018.
[616] Ibid 496.

CHAPTER 5

FINDINGS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The thesis set out to determine what cryptocurrencies are and where they fit in the international e-commerce marketplace. Expanding on the introductions in chapter one, chapter two provided a brief background of the development of cryptocurrencies from its humble languished beginnings in the 90s to the multi-billion dollar industry it has now become. It outlined that the introduction of cryptocurrencies to the international monetary platform offers an innovative and successful payment model that can boost international trade. Chapter two further noted these currencies, through its instantaneous payment framework that is able to transcend borders, offer dynamic potential for the enhancement of international trade. It also provides unrestricted financial activities from buying and selling to transferring and exchanging. However, there are functional and operational risks that need to be addressed with resolve.

Chapter three highlighted that cryptocurrency platforms are not controlled and regulated as they should be in order to reach its potential. It evidenced that the WTO is one of the international regulatory bodies that can provide far reaching regulatory provisions for the monitor and use of cryptocurrencies. The argument of Howden that the best organization to handle disputes that may arise from cryptocurrency transactions is the WTO was put forward. [617] It was further outlined that cumbersome regulation that stymie innovation should be avoided.[618] Furthermore, it was highlighted that the lack of regulatory policies is considered as the main concern impeding cryptocurrency systems. It was cautioned that regulation must be made purposefully maintain consideration that over burdensome regulation may be detrimental to the global economy.

[617] Ibid 436.
[618] Ibid 439.

In Chapter four it was outlined that South Africa is giving careful consideration to its approach to financial technologies in an attempt to promote innovation in order to meet the needs of consumers and developing markets. [619] This is being undertaken by a concerted approach by various domestic regulatory bodies. This pro-innovation stance was initiated by SARB's 2009 position paper which welcomed new technologies and innovative developments. [620] In 2019, the IFWG furthered these discussions calling on the public to comment on their proposals in order to develop a collaborative regulatory policy for the use of cryptocurrencies in South Africa.

The thesis outlined that there are numerous benefits that cryptocurrencies have to offer to consumers, such as enhanced access to global markets, easy-to-use, enhanced financial control and secure payment opportunities. It was however, also pointed out that the anonymity and double spend attacks, pose significant risks to the use of these currencies such as money laundering, theft and fraud on the current model. It showed that, government understanding of these non-traditional payment mechanisms are necessary to ensure compliance with obligations and consumer protection.

Dong He highlighted that as the use of cryptocurrencies and DLT significantly reduce the time taken to make cross-border payments through the of bypassing correspondent banking networks, it is possible that their use will become more widely adopted on private e-commerce networks and fulfil monetary functions in some regions.[621] This thesis is in agreement with this analysis. As shown in Chapters two and three, the use of cryptocurrencies around the world has immense potential to revolutionise the way international trade is conducted. This thesis is of the opinion that the potential reach of these currencies and advantages for developing economies are unfretted. In addition, cryptocurrencies seek to provide solutions to many of the development trade barriers experienced by these countries through access to previously unattainable marketplace. However, critics argue the ever-changing value and vulnerability to fraud makes cryptocurrencies highly unstable and open to a speculative crash. [622] Nevertheless, with

[619] Such as, enhanced financial access and efficiency. *See*: Ibid 165.
[620] Ibid 496.
[621] Ibid 45.
[622] Ibid 47.

cryptocurrencies performing useful functions it has an undeniable position in today's society The IMF President, speaking about bitcoin, remarked that while the anonymity of the currency is infamously linked to money laundering and terrorism, the underlying technology that guarantees anonymity and decentralised authentication of transactions is fascinating.[623]

5.2 REGULATION RECOMMENDATIONS

As illustrated in the previous chapters, the need for regulation of cryptocurrencies are prevalent in the international marketplace to fully take advantage of the technological advances that the blockchain system propounds. This thesis endeavoured to illuminate the novel concept of cryptocurrencies in an attempt to determine what regulatory initiatives should be undertaken by authorities. It is recommended that in order to take complete advantage of the benefits cryptocurrencies have to offer users, regulatory safeguards must be put in place to ensure trust and reliance in these systems. Regulatory responses should be centred on monitoring its use and development in order to provide users with support and recourse when engaging in cryptocurrency transactions.[624] The object of cryptocurrency regulation can be classed into three categories, namely, combating the use of funds for illicit activities; protecting consumers and investors against fraud and other abuses; and ensuring the integrity of markets and payment systems and overall financial stability. [625]

However, ever evolving technological advances makes it difficult for the regulatory authorities to keep up.[626] Attorneys, Kalender, and Gürbüz argue that the movements of cryptocurrencies can be monitored by law enforcement agencies through registration and coordination, which will result in increased reliability and stability of the currencies together with the reduction of use for illicit activities.[627] A study on the bitcoin system identified that there is a possibility to deploy marked bitcoins to reveal more information

[623] Ibid 266.
[624] Ibid 76.
[625] Ibid 434.
[626] Ibid 76.
[627] Ibid 84.

about the users.[628] Writing on behalf of the BIS, Raphael Auer and Stijn Claessens point out in BIS Quarterly Review September 2018 that regulators have numerous tools at their disposal to dispense with the recognised risks.[629] Firstly, in addressing its illicit use, regulation can be aimed at cryptocurrency providers such as cryptocurrency exchanges.[630] Similarly, a quantitative thesis by Mthokozisi Moyo, obtained results wherein some respondents argue that "a potential regulation, to obtain legitimacy, of cryptocurrency can be developed by regulating the companies that handle and facilitate cryptocurrencies".[631] However, some respondents argue that allowing cryptocurrencies to be self-regulating will be the best option referencing the success of the Johannesburg Stock Exchange framework.[632] Secondly, regulations can be focused on using approved financial intermediaries and their established rules as issuers of these currencies.[633] This will allow for a central agency to be accountable for the issuing, exchange and monitor of cryptocurrencies. However, this method negates the foundational concept of a decentralized framework. Thirdly, clarification and classification of cryptocurrencies by regulators will define their use.[634] In this regard, when determining a regulatory framework, consistency, clarity, and cost-effective implementation must be borne in mind to ensure the practicality and success of such regulatory initiatives.[635]

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[628] F Reid and M Harrigan 'An Analysis of Anonymity in the Bitcoin System' (2011) IEEE International Conference on Privacy, Security, Risk, Trust, and Social Computing available at *https://users.encs.concordia.ca/~clark/biblio/bitcoin/Reid%202011.pdf*, accessed on 17 August 2018.

[629] This shapes issues such as consumer protection (e.g. how to treat ownership rights, theft and mis-selling) and retail use (e.g. who may legitimately trade cryptocurrencies and under what conditions). *See*: Ibid 434.

[630] For example, AML/CFT regulations already in place can often be extended to cryptocurrencies. And existing consumer and investor protection laws and regulations can often be applied or adapted. *See*: Ibid 434

[631] M Moyo 'Determining the risks posed to South African banks by cryptocurrencies' (2018) Gordon Institute of Business Science. University of Pretoria, available at *https://repository.up.ac.za/bitstream/handle/2263/66227/Moyo_Determining_2018.pdf?sequence=1&isAllowed=y*, accessed on 9 December 2018.

[632] "The environment gets to decide that, how much it's worth. Then the environment also gets to decide how it should improve, or what kind of protocols we need to adopt to make it better. It's not governments that get to decide that. But in the same way, if it's the community that wants to decide this thing, then it's also the community that needs to take responsibility for how the market operates, how consumers are dealt with and when consumers get hurt." *See:* Ibid 631.

[633] Ibid 434.

[634] This shapes issues such as consumer protection (e.g. how to treat ownership rights, theft and mis-selling) and retail use (e.g. who may legitimately trade cryptocurrencies and under what conditions). *See*: Ibid 434.

[635] Ibid 65.

USA attorney Ed Howden propositions that the WTO should implement a directive that classifies cryptocurrency as a good[636] rather as a currency.[637] He advocates that this will refute currency regulation issues.[638] The exchange of cryptocurrency as a good can therefore follow preexisting trade regulation guidelines and will not require new regulatory endeavors.[639] Through this classification, countries intending to ban the use of cryptocurrencies in their domestic markets can do so in the same manner as they do on the import of restricted goods.[640] This thesis acknowledges this method as a viable regulatory measure that can be adopted to fit into existing frameworks without disrupting current financial classifications. Similarly, economist Desné Masie writes that international cooperation in this cross-border market is the superlative solution.[641] In this respect, Howden cautions that inelegant, fragmentary regulation could lead to the development of the regulatory equivalent of "whack-a-mole"[642] and failure to address the problem of the potential devaluation of the currency of a nation.[643] He proposes that burdensome regulatory frameworks to circumvent risks of cryptocurrencies could possibly exacerbate problems which the regulation seeks to correct.[644] He suggests that the regulation of cryptocurrency depends largely upon how they are defined.[645] Thus, in agreement with these contentions, this thesis submits that synchronisation through the WTO and other international organisations[646] could avoid discrimination between jurisdictions and a universally acceptable system.[647]

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[636] "According to the WTO, the ordinary meaning of "goods" is "tangible or movable personal property other than money; articles or items of merchandise (goods or services)". *See*: World Trade Organisation 'Dispute Settlement Reports 2002' Cambridge University Press Volume 9, Pages 3595-4077 (2002), available at *http://answertext.info/dispute-settlement-reports-2005-world-trade-organization-dispute-settlement-reports-volume-11-world-trade-organization-ebook-stories-to-read.pdf*, accessed on 9 March 2018.
[637] Ibid 436.
[638] Ibid.
[639] Ibid.
[640] Ibid.
[641] Ibid 31.
[642] Cumbersome regulation will simply spark innovation to circumvent these controls and foster the development of new cryptos, reduce demand for the established cryptos, and harm the international economy. See: Ibid 436.
[643] Ibid 436.
[644] Ibid.
[645] Ibid.
[646] Discussed in Chapter 3.
[647] Ibid 31.

Accordingly, international law enforcement agencies would in a position to monitor cryptocurrencies transactions through their user IP addresses which allow for access to information when potential criminal activities takes place. [648] As such, a protocol in this regard, which has been signed and ratified, could act as a policy for the prosecution of crimes and the assistance in transactional security for users.[649] In addition, the move towards digital currency as opposed to physical cash may drive out, as a result of electronic footprints from marked electronic cryptocurrencies, the facilitation of bribes and unmarked payments for cash centric illegal activities such as drugs and terrorism.[650] Under these circumstances, a blockchain system could securely monitor the ownership of every financial instrument and transparency in the global economy has the potential to make policing money laundering and terrorism finance much easier.[651] However, such a transparent system would ultimately result in a world without privacy thereby narrowing individual freedom, which undermines the intention behind the creation of cryptocurrencies.[652] This thesis recognises that the use of cryptocurrencies have many pros and cons however ultimately, a system that eradicates illicit activities and fosters an international economy of transparency and trust as well as has the potential to engage with the needs of many sustainability goals, should be embraced and adopted widely in order to augment its benefits. This thesis submits that an international harmonized approach is the best way to ensure effective monitoring that will refute jurisdictional issues.

In its Consultation Paper, the South African regulatory authorities emphasised the need for a cautious and "do no harm approach when regulating cryptocurrencies" in line with the suggestions by the U.S. Commodity Futures Trading Commission.[653] This is

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[648] J Bohannon 'Why criminals can't hide behind Bitcoin' *Science Mag* 9 march 2016, available at: *https://www.sciencemag.org/news/2016/03/why-criminals-cant-hide-behind-bitcoin*, accessed on 20 December 2018.
[649] Ibid 84.
[650] Ibid.
[651] World Economic Forum and VorxEU 'What's the future of Blockchain?' (2018) available at *https://www.weforum.org/agenda/2018/08/finance-and-blockchains*, accessed on 3 December 2018.
[652] Ibid.
[653] Do no harm was unquestionably the right approach to development of the Internet. With the proper balance of sound policy, regulatory oversight and private sector innovation, new technologies will allow markets to evolve in responsible ways and continue to grow our economy and increase prosperity. *See*: Ibid 468.

unquestionably a prudent approach to regulating cryptocurrencies as it enables users to participate while the global market decides whether or not bitcoin, or any other cryptocurrency, is money that should be used in society as a medium of exchange and a store of value.[654] If cryptocurrencies do indeed become the next global reserve currency then users will be able to position themselves for that, and they will ultimately be able to preserve their wealth.[655] Author, Aaron Lindquist censures the regulation of cryptocurrencies. He submits it will have a 'chilling effect' on its use thereby reducing its market interest.[656] He suggests that national legislators around the world should allow cryptocurrencies such as Bitcoin to 'evolve and flourish' in order for it to realise enhanced global commercial opportunities.[657] In this regard, when determining how to regulate cryptocurrencies, it must be borne in mind that overly burdensome regulation can stifle or thwart business, thereby increasing costs market delivery.[658] The burden of compliance can further impede business activity and limit innovation.[659] Focus must therefore be had on developing policies which will allow for tracking and monitoring of user activity while maintaining the privacy of users.[660] Therefore, this thesis notes that regulatory practices must weigh up the necessities of regulation and the freedom of use and innovation in determining the best way forward. It further acknowledges that the implementation of regulation and maintaining defined international standards and practices will provide reassurance and confidence to cryptocurrency users. Furthermore, adopting agile frameworks will allow regulatory policies to evolve with these technologies while promoting innovation and development. Luno[661], country manager, Marius Reitz suggests that regulating the cryptocurrency industry will increase confidence and economic stability

[654] Ibid 468.
[655] Ibid.
[656] A Lindquist 'Funny Money: Why Bitcoin Does Not Warrant Increased Governmental Regulation' (2014), *1 J. Glob. Just. & Pub. Pol'y 79* available at https://heinonline.org/HOL/LandingPage?handle=hein.journals/jglojpp1&div=9&id=&page, accessed on 15 April 2018.
[657] Ibid.
[658] Ibid 2.
[659] Ibid.
[660] Ibid 84.
[661] A global cryptocurrency company with offices in London, Singapore and South Africa.

that can engender growth and development to unlock far more advanced products and business models.[662]

As technology's influence rises and centralised financial authorities continue to challenge unregulated digital currency transactions across borders, national governments are likely to try to invoke outdated regulation or implement new laws to curb dissidents and take back control.[663] There are currently not enough efforts undertaken to regulate the use of the Internet, cryptocurrencies and AI.[664] This has the potential to lead to an increasing gap between the technological frontiers and global governance mechanisms.[665] It is noted that cyber policies must match the need for freedom of the internet and policies that protect users and businesses from crime must match evolving ICT-related crimes.[666] In this regard, Lagarde encourages financial sector players to embrace cryptocurrencies as it is in a position to change financial investments and saying.[667] She also highlights that as many technologies before it which has transformed the lives of people, so too does cryptocurrency have such potential. [668] For this reason, she urges policymakers to develop regulatory framework that reduce risk and promote innovation.[669]

5.3 CONCLUSION

In response to the growth in ICTs, Francois Groepe, warns financial institutions to keep abreast of technological advancements if they intend on surviving the ICT age.[670] Accordingly, the introduction of cryptocurrency is said to have the potential to advance a

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[662] G Steyn 'Crypto Shake-Up: SARB publishes regulation views on cryptocurrency' *IOL Business Report* 16 January 2019 available at *https://www.iol.co.za/business-report/economy/crypto-shake-up-sarb-publishes-regulation-views-on-cryptocurrency-18840077*, accessed on 3 February 2019.
[663] Ibid 608.
[664] K Evanoff & M Roberts, 'A Sputnik moment for artificial intelligence geopolitics', Council on Foreign Relations, available at *https://www.cfr.org/blog/ sputnik-moment-artificial-intelligence-geopolitics?utm_medium=social_earned&utm_ source=tw&utm_campaign=blog&utm_term=sputnik-moment&utm_content=091017,* accessed 8 December 2018.
[665] Ibid.
[666] Ibid 608.
[667] Ibid 404.
[668] Ibid.
[669] Ibid.
[670] As such he quotes an adage to: "adapt quickly to change or perish seamlessly without change in the 21st century." See: Ibid 49.

new surge of international trade.[671] This thesis underlined that cryptocurrencies bypass the need for a third party and allow users complete control over their money. As such, cryptocurrencies are firmly increasing in appeal as the technology develops.[672] From a financial perspective, the advances emanating in the wake of the emerging digital revolution can directly impact future competitiveness and inclusive growth which requires careful policy response.[673] Accordingly, the ability to deliver products faster and expanding their reach are increasingly important for companies competing on the international marketplace.[674] In this regard, if e-commerce is to fulfil its economic growth potential, legal systems need to be progressed so as to accommodate emerging business developments.[675] This thesis recognizes the use of cryptocurrencies in enhancing these developmental business goals.[676] The previous chapters have established that the use of cryptocurrency payment systems have the potential to enhance e-commerce and cross-border transactions as well as allow for complete control by users in the use and spend of their money.

However, this technology has been met with mixed viewpoints due to the fact that they are not backed by any government or financial institution.[677] The assortment of approaches towards cryptocurrencies reflect an ongoing global debate on cryptocurrencies.[678] This creates uncertainty regarding their reliability, stability of value and legal status.[679] These uncertainties are stifling the potential of this new technology. In addition, its potential is truncated by the regulatory uncertainty surrounding its potential use for illicit activities.[680] Cryptocurrencies are further impecunious as they do not have a

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[671] S McLeod 'Bitcoin: The Utopia or Nightmare of Regulation' (2017) *Elon Law Review,* Vol 9, p. 553-578 available at https://www.elon.edu/e/CmsFile/GetFile?FileID=959, accessed on 5 July 2018.
[672] Ibid 139.
[673] Ibid 2.
[674] Ibid.
[675] Ibid 75.
[676] By ensuring a business environment that allows firms to quickly react to new developments, including assisting in enhancing the reach of products to untouched markets, providing a supportive innovation ecosystem for development and growth of technology, ensuring that barriers to market entry stay low through the enforcement of a progressively competition regime, and promoting and facilitating ICT adoption and infrastructure. *See*: Ibid 2.
[677] Ibid 84.
[678] Ibid 461.
[679] Ibid 84.
[680] Ibid 671.

specific monitoring body legal entity that is responsible for monitoring transactions and consumer protection. In addition, the nature of cryptocurrencies are essentially purposefully intended to be anonymous.[681] This decentralised type of currency is difficult to track thus drawing the attention of criminals to use these means for corrupt payments and money laundering.[682] However, a counter-argument could be made that illegal payments are made by cash money as well, which is equally as hard to track, if not more.[683] Thus it is the opinion of this thesis that cryptocurrency systems do not create unfamiliar methods of fraud and theft that need to be addressed but rather are in line with already existing systems in a different form. Nigh and Pelker, argue that to the extent that there remains no defined regulatory oversight, illegal activities associated with the use of cryptocurrencies will flourish and grow.[684] Accordingly, further regulation is said to be necessary before it can be widely accepted by the public.[685] In response to this many governments have begun amending or supplementing existing laws in order to deal with it.[686] This will allow users to better understand the implications of their use as well as a mechanism for restitution in the event of suffering any grievances.

This thesis further underlined that although there are acknowledged risks associated with cryptocurrencies, their risk is mitigated by the fact that they are useful and can play an vital role in society.[687] As the volume of these new instruments expand, it will be crucial for legislative bodies to understand the depths of the matter, considering both the risks and opportunities of cryptocurrencies to apply the right approach to regulation.[688] This thesis submits As highlighted in Chapter 3, the attitude toward cryptocurrency regulation

[681] Ibid 84.
[682] Money laundering can be defined as a financial transaction and other activities, which are committed for a particular target of concealment the real origin of the revenue. *See*: V Dyntu and O Dyky 'Cryptocurrency in the system of money laundering' (2018) *Baltic Journal of Economic Studies*, Vol. 4, No. 5, p. 75 – 79, available at https://doi.org/10.30525/2256-0742/2018-4-5-75-81, accessed 22 February 2019. and Ibid 84.
[683] Ibid 84.
[684] Ibid 63.
[685] Ibid 139.
[686] Ibid 70.
[687] Ibid 117.
[688] Ibid 84.

is divergent from a complete abnegation to all-consuming liberation reverence.[689] Accordingly some countries such as China, Brazil and South Africa have undertaken a conservative approach toward the regulation of cryptocurrencies by either restricting or prohibiting their use.[690] While others have adopted a liberal approach wherein transactions involving cryptocurrencies are allowed and regulatory concessions are granted by the government.[691] Some countries have opted for a neutral or wait and see approach in order to monitor and observe the cryptocurrency marketplace before adopting any hasty regulations.[692] This thesis does not support any radical viewpoints regarding cryptocurrencies as it acknowledges that it is a tool which has advantages and disadvantages.

[689] V Dyntu and O Dyky 'Cryptocurrency in the system of money laundering' (2018) *Baltic Journal of Economic Studies*, Vol. 4, No. 5, p. 75 – 79, available at https://doi.org/10.30525/2256-0742/2018-4-5-75-81, accessed 22 February 2019.
[690] Ibid 440
[691] Ibid.
[692] Ibid.

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UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

3 September 2018

Miss Hanamika Singh 209513211
School of Law
Howard College Campus

Dear Miss Singh

Protocol reference number: HSS/1422/018M
Project title: Show me the money' : A discussion of the cryptocurrency market and its potential regulation in South Africa

FULL APPROVAL – No Risk/Exemption Application

In response to your application received 2 August 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Professor Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Clydenia Edwina Stevens
cc. Academic Leader Research: Dr Shannon Bosch
cc. School Administrator: Ms Robynne Louw/ Mr P Ramsewak

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